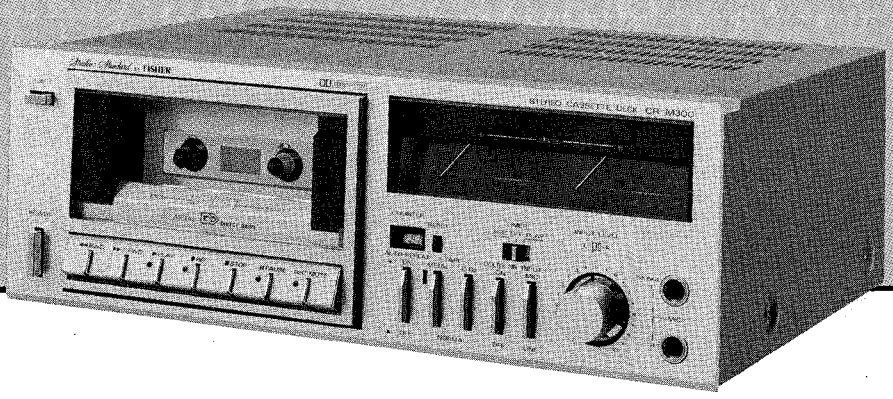
SERVICE MANUAL

# FISHER

# CR-M300

## Stereo Cassette Deck

(EUROPE)



THE FIRST NAME IN HIGH FIDELITY

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# SPECIFICATIONS

| | |
|---|---|
| Motor | (1) Direct Drive, (1) DC Governor |
| Cassette Loading | Front |
| Drive System | (1) Capstan |
| Number of Heads | 2 |
| Head Material | MX/Ferrite |
| Wow & Flutter | 0.04% WRMS |
| Signal-to-Noise Ratio (CCIR Weighted) | |
| Dolby Off | 54dB |
| Dolby On | 62dB |
| Erase Ratio | 70dB |
| Channel Separation | 40dB |
| Signal Crosstalk | 70dB |
| Frequency Response | |
| Normal Tape (±3dB) | 30Hz - 14kHz |
| $CrO_2$ Equivalent Tape (±3dB) | 30Hz - 15kHz |
| Metal Tape (±3dB) | 30Hz - 15kHz |
| Total Harmonic Distortion at 0VU | 1.5% |
| Fast Forward/Rewind Time (C60) | 90sec. |
| Level Indicators | (2) Record Level VU Meters |
| Inputs | (2) Microphone |
| Sensitivity/Impedance | |
| MIC. | 0.3mV/10kΩ |
| LINE | 30mV/50kΩ |
| Outputs (Level at 0VU) | (2) Line 580mV/1kΩ |
| Tape Selector Switch | Normal, $CrO_2$, Metal |
| Power Requirements (50/60Hz) | 120/220V AC, 38W |
| Dimensions (W x D x H) | 11-3/4" x 8-1/4" x 4" |
| Weight | 11lbs. |

**—Specifications subject to change without notice.—**

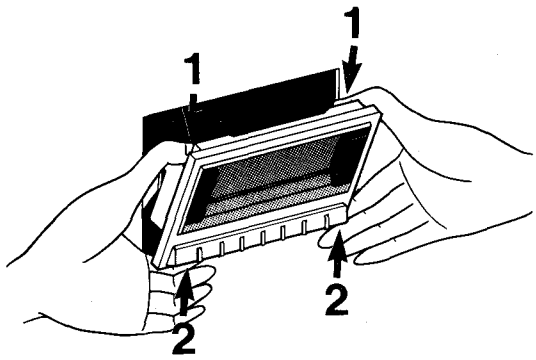
# DISASSEMBLY INSTRUCTIONS

## GENERAL REMARKS

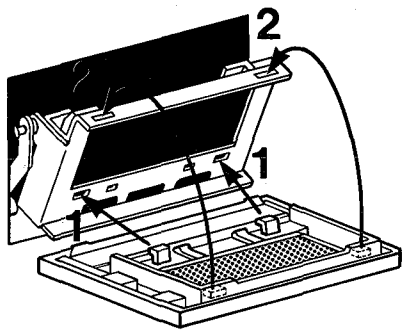
Before disassembling the unit, spread a soft cloth or a rubber mat on the work bench to avoid scratches and grease spots. Reassemble the unit correctly noting the kinds of fastening screws and leads. Refer to the circuit diagrams and exploded views.

## CASSETTE LID REMOVAL

1. Open the Cassette Holder by pressing the Eject Button and remove the Cassette Lid as illustrated.



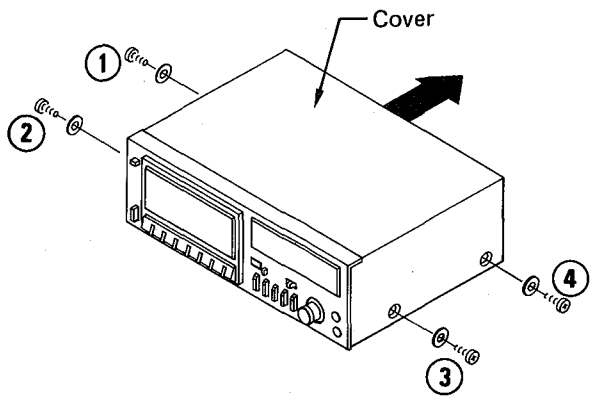

2. When mounting the Cassette Lid, open the Cassette Holder and reassemble it in the order as illustrated.




## COVER REMOVAL

1. Remove the four screws (1 – 4) fastening the Cover.

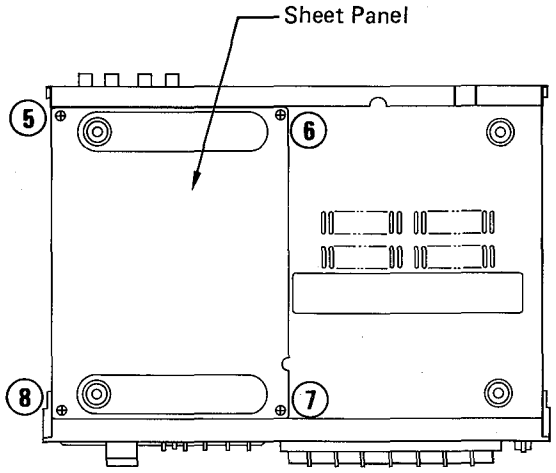
2. Remove the Cover by sliding it in the direction of the arrow as illustrated.




3. Reassemble in reverse order.

## SHEET PANEL REMOVAL

1. Turn over the unit and remove the four screws (5 – 8) fastening the Sheet Panel.

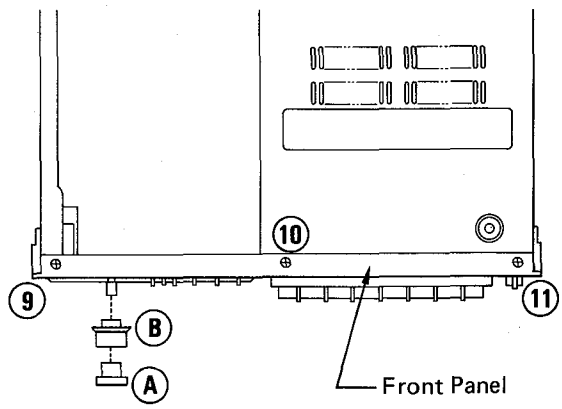



2. Reassemble in reverse order.

## FRONT PANEL REMOVAL

1. Remove the Cover and pull out the Input Level Control Knobs (A and B) from the unit.

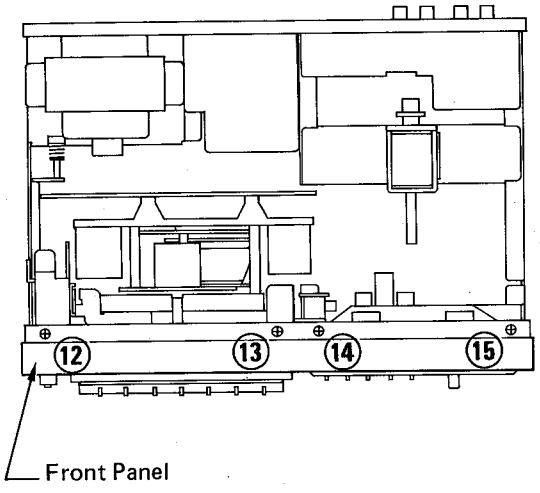
2. Turn over the unit and remove the three screws (9 – 11) on the lower side of the Front Panel, then turn it over again.




3. Remove the four screws (12 – 15) on the upper side of the Front Panel.

4. Pull out the two Connectors (CN5 and CN6) from the Amplifier P.C.Board. Then, remove the Front Panel noting the lead wires of the Metal Indicator.

# DISASSEMBLY INSTRUCTIONS (Continued)

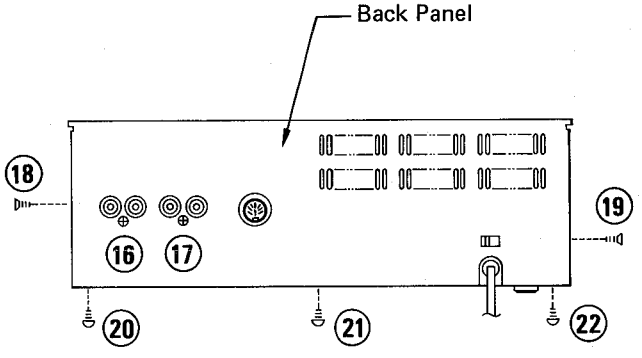



5. Reassemble in reverse order.

## BACK PANEL REMOVAL

1. Remove the Cover and the two screws (16 and 17) holding the Line Jack.

2. Remove the five screws (18 – 22) fastening the Back Panel. Then, remove the Back Panel.

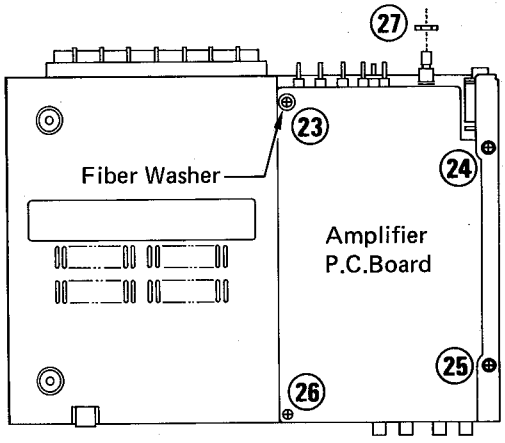



3. Reassemble in reverse order.

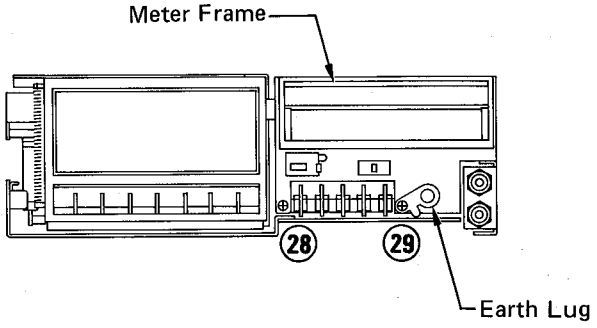
## AMPLIFIER P.C.BOARD REMOVAL

1. Remove the Cover, Sheet Panel, Front Panel, and Back Panel by following the instructions given previously.

2. Remove the four screws (23 – 26) fastening the Amplifier P.C.Board and the nut (27) fastening the Input Level Control.

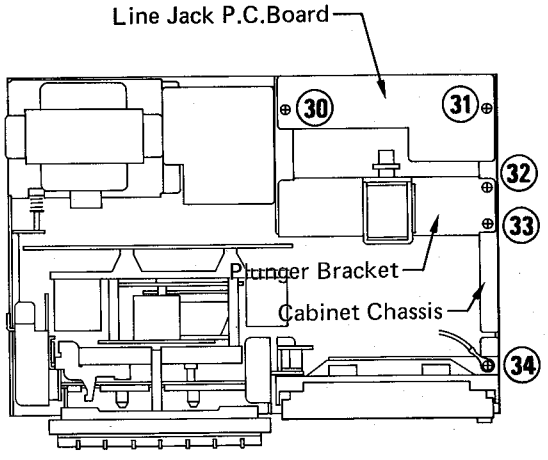



3. Remove the two screws (28 and 29) holding the Switches and the two screws (30 and 31) fastening the Line Jack P.C.Board. Then, pull out the Connector (CN2) from the Control P.C.Board.




4. Remove the three screws (32 – 34). Then, remove the Cabinet Chassis.

5. Remove the Amplifier P.C.Board noting the lead wires.



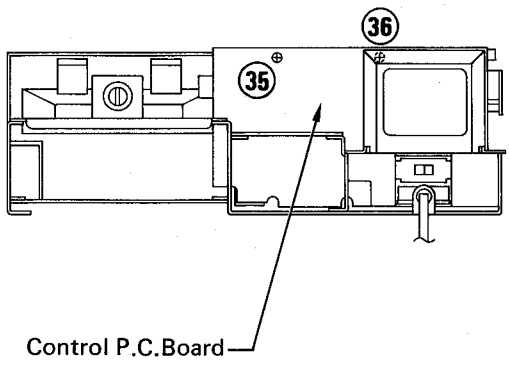

6. Reassemble in reverse order.

# DISASSEMBLY INSTRUCTIONS (Continued)

## CONTROL P.C.BOARD REMOVAL

1. Remove the Cover and the two screws (35 and 36) fastening the Control P.C.Board.

2. Untie the leads for arrangement and remove the Control P.C.Board.

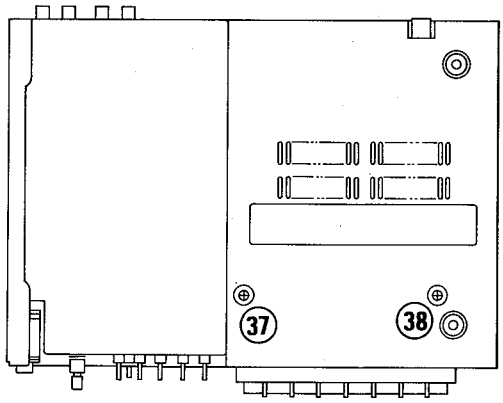



3. Reassemble in reverse order.

## MECHANISM CHASSIS REMOVAL

1. Remove the Cover and Front Panel. Then, remove the Counter Belt.

2. Remove the two screws (37 and 38) fastening the Mechanism Chassis, and then the Mechanism Chassis noting the arranged leads.




3. Reassemble in reverse order.

# MECHANICAL ADJUSTMENTS

## EQUIPMENT REQUIRED

- Phillips screwdriver
- Flat-bladed screwdriver
- A pair of round-nose pliers
- A pair of nippers
- Cassette Tape
- Paint or glue
- Wow and flutter meter

## GENERAL REMARKS

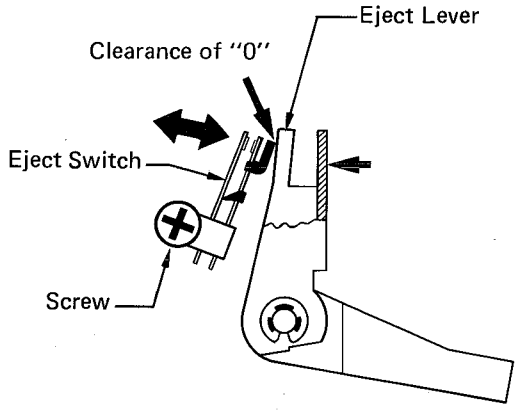
- Before adjusting the mechanism of the unit, wipe the tape contacting surfaces clean with a soft cloth soaked in alcohol.

## EJECT SWITCH ADJUSTMENT

The Eject Switch is turned on by pushing the Eject button, so that the unit is released from any modes and set in the stop mode. After that, the cassette holder opens slowly.

1. Check that the clearance between the Switch and Eject Lever becomes "0" (zero) when the cassette holder is closed and the Eject button is slightly pushed.

2. If necessary, loosen the screw fastening the Switch and move the Switch to the specified position as illustrated.




3. After the adjustment, tighten the fastening screw and secure it with paint or glue.

**NOTE:**
The clearance of the switch contacts should be approximately 0.5mm.

# MECHANICAL ADJUSTMENTS (Continued)

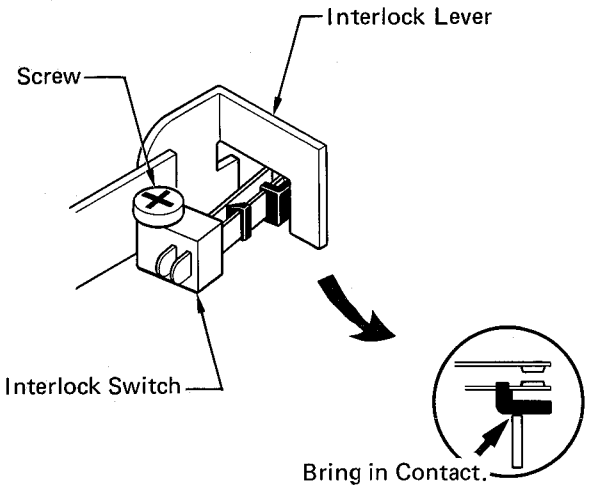
## INTERLOCK SWITCH ADJUSTMENT

It can be checked whether the flaps on the rear of the cassette are removed or not by pressing this switch lever. If the switch does not function, no recording can be made by pressing the Record button. This switch performs the following functions to prevent a recording error.

- When the cassette has the flaps or the cassette holder is opened, this switch is turned on.
- When the cassette has no flaps or the cassette holder is closed without a cassette inserted into the cassette holder, this switch is turned off.

Perform the switch adjustment as follows:

1. Close the cassette holder without a cassette inserted into the cassette holder. Loosen the screw fastening the switch and bring the switch in contact with the Interlock Lever as illustrated. Then, tighten the fastening screw.



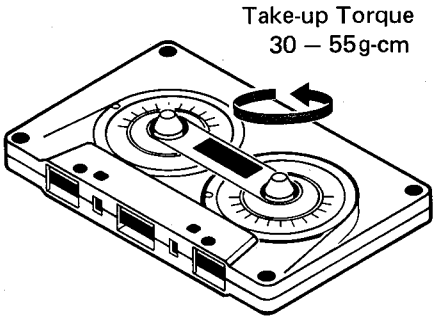

2. Insert a cassette into the cassette holder. Then, alternately open and close the cassette holder and check to see that the switch functions correctly.

3. After the adjustment, secure the fastening screw with paint or glue.

**NOTE:**
Before this adjustment, remove the Mechanism Chassis from the unit. Also remove the Plunger Bracket from the Mechanism Chassis. The clearance of the switch contacts should be approximately 0.5mm.

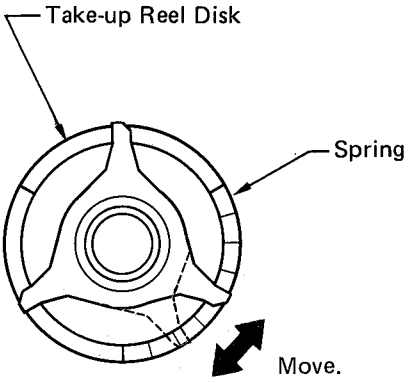
## TAKE-UP TORQUE ADJUSTMENT

1. Insert the cassette-type torquemeter (100g-cm Max.) into the cassette holder and set the unit in the playback mode. The torque meter should read 30 – 55g-cm.



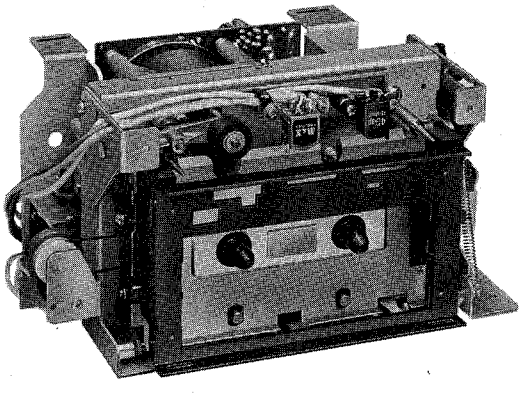

Cassette-type Torquemeter

2. If necessary, adjust the take-up torque by moving the spring of the Take-up Reel Disk as illustrated.




## SOLENOID ADJUSTMENT

Two Solenoids are used in the Mechanism Chassis. Remove the Mechanism Chassis from the unit by following its removal instruction and turn over the Chassis as illustrated. Then, adjust the solenoid positions.



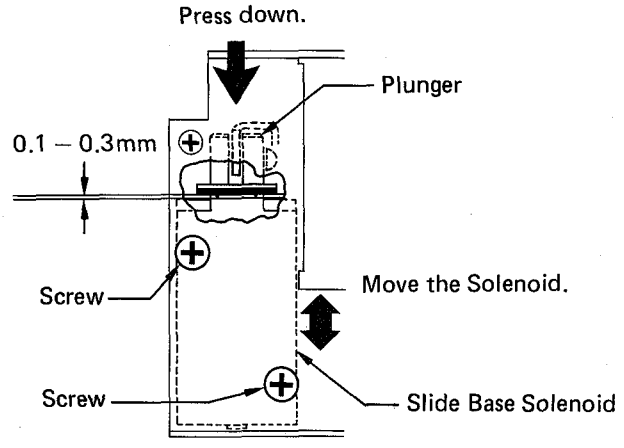
# MECHANICAL ADJUSTMENTS (Continued)

### SLIDE BASE SOLENOID ADJUSTMENT

1. Loosen two screws fastening the Slide Base Solenoid and slowly press down the Plunger of the Slide Base Solenoid.

2. When the Slide Base is fully pressed down, the clearance between the Solenoid and Plunger should be 0.1 – 0.3mm.

3. If necessary, adjust the clearance by moving the solenoid position as illustrated.

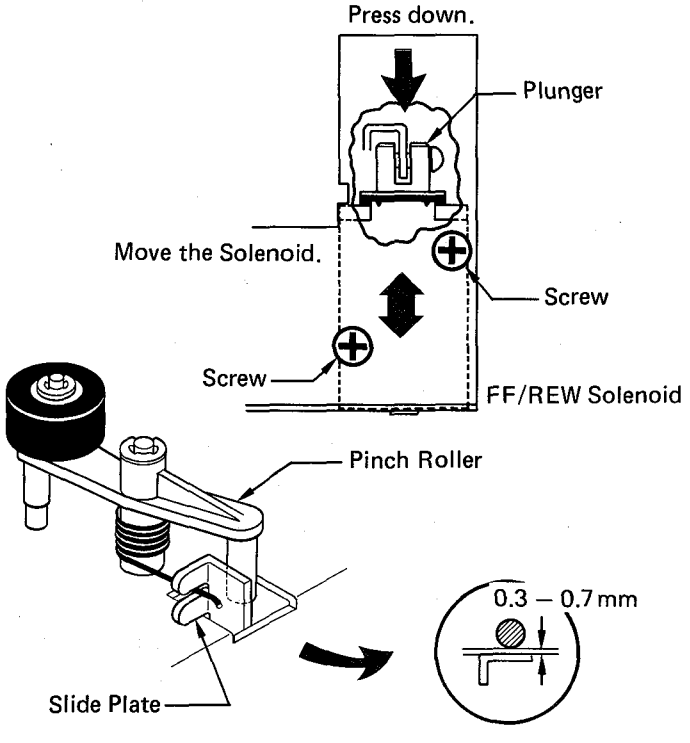



4. After the adjustment, tighten the screws fastening the Solenoid and secure them with paint or glue.

### F.FWD/REW SOLENOID ADJUSTMENT

1. While keeping the Plunger of the Slide Base Solenoid pressed down, fully press down the Plunger of the F.FWD/REW Solenoid.

2. Check that the clearance between the Pinch Roller and Slide Plate is 0.3 – 0.7mm as illustrated.




3. If necessary, loosen two screws fastening the F.FWD/REW Solenoid and move the Solenoid until the specified clearance is obtained.

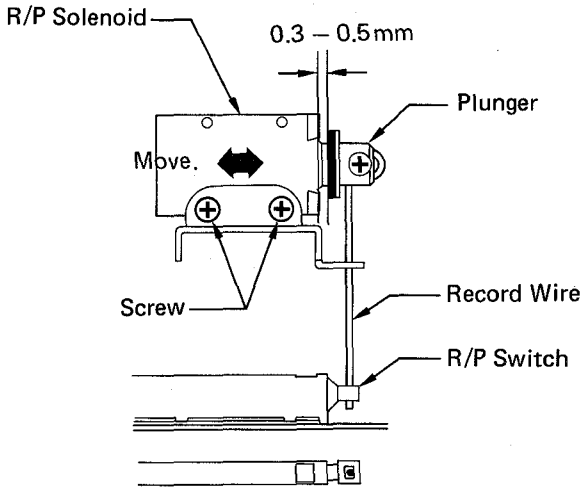
**NOTE:**
When two Solenoids are not positioned correctly, the Solenoid may not pull the Plunger or the tape will be damaged.

### R/P SOLENOID ADJUSTMENT

1. Remove the Cover and Sheet Panel from the unit by following their removal instructions. Then, remove the Control P.C.Board.

2. Slowly press the Plunger of the R/P Solenoid, observing the R/P Switch on the Amplifier P.C.Board.

3. When the R/P Switch is completely changed over, check that the clearance between the Solenoid and Plunger is 0.3 – 0.5mm.




4. If necessary, loosen the screws fastening the Solenoid and move the Solenoid until the specified clearance is obtained.

5. After the adjustment, tighten the fastening screws and secure them with paint or glue.

### D.D. MOTOR ADJUSTMENT

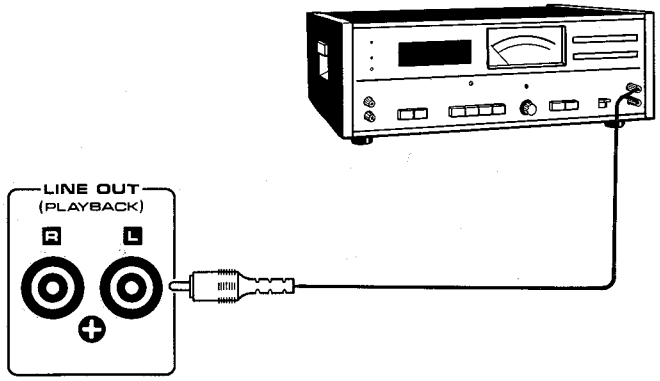
After the D.D. (Direct Drive) Governor P.C.Board has been removed or replaced, preform this adjustment by the following procedure.

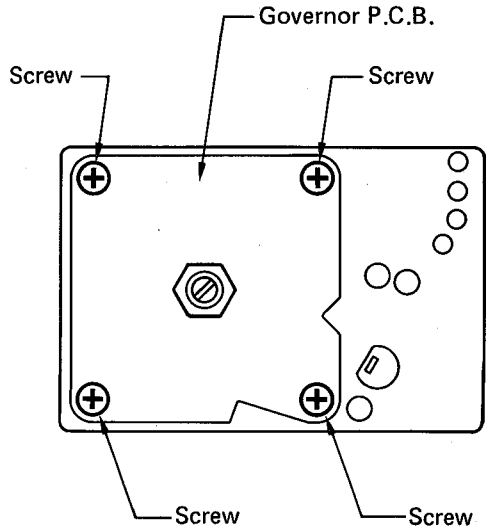
1. Mount the D.D. Motor Governor P.C.Board to the Motor Holder by tightening four screws.

2. Connect the wow and flutter meter to the right or left channel LINE OUT as illustrated and insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette holder. While playing back the test tape, perform the adjustment as follows.

# MECHANICAL ADJUSTMENTS (Continued)

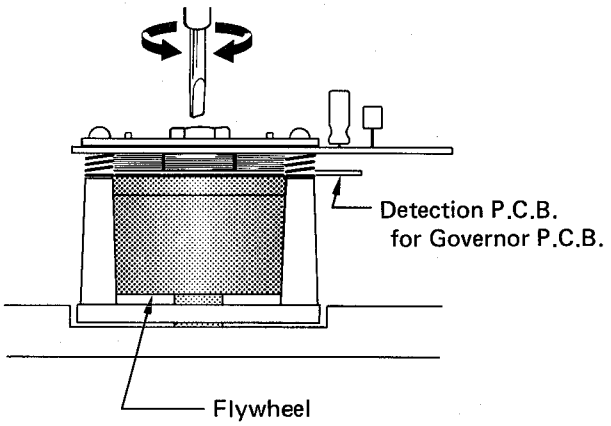
Wow and Flutter Meter



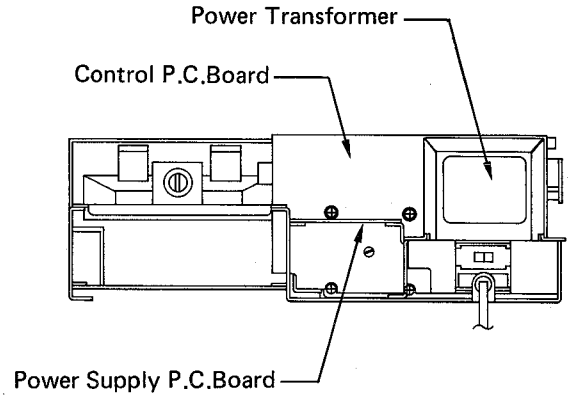

3. Slowly turn the Flywheel Adjusting Screw counter-clockwise until the Flywheel comes in contact with the Detection P.C.Board on the D.D. Governor P.C.Board, and also turn the Adjusting Screw clockwise by 270° from the position as illustrated.

Turn the flywheel adjusting screw.




4. Then, turn four screws fastening the Governor P.C.Board until the wow and flutter meter reads less than 0.04%.

5. Perform the adjustment in Item 3 again and then, secure the Flywheel Adjusting Screw and four screws fastening the D.D. Governor P.C.Board with paint or glue.




6. After the adjustment, perform the Tape Speed Adjustment by following its adjusting procedure.

# ELECTRICAL ADJUSTMENTS

## EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Attenuator
- Dummy Load (47k-ohm)
- Audio Signal Generator
- Dualtrace Synchroscope
- Test Tapes
  - * 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - * 10kHz Test Tape (Example: TEAC MTT-114) for Head Azimuth Adjustment
  - * Test Tape for DOLBY Calibration Level (Example: TEAC MTT-150) in Playback Sensitivity Adjustment
- Test Tapes for Recording and Playback Operations
  - * Normal Tape (Example: TDK AC-222)
  - * Chromium Dioxide Tape (Example: TDK AC-512)
  - * Metal Tape (Example: TDK AC-711)
- Alignment Tool

**Before the Electrical Adjustment, set the unit and measuring instruments as follows:**

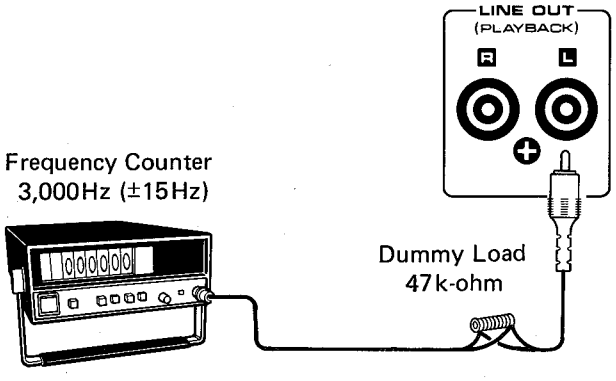
* Timer Stand-by Switch . . . . . OFF
* Auto Repeat Switch . . . . . OFF
* Tape Select Switch . . . . . NORMAL
* DOLBY NR Switch . . . . . OFF
* Input Select Switch . . . . . LINE
* Input Level Control . . . . . Maximum
* Audio Signal Generator Output . . . . . 1kHz 0dB, 1V

**NOTE:**

* Perform the adjustments in the order as described in this manual.

## TAPE SPEED ADJUSTMENT

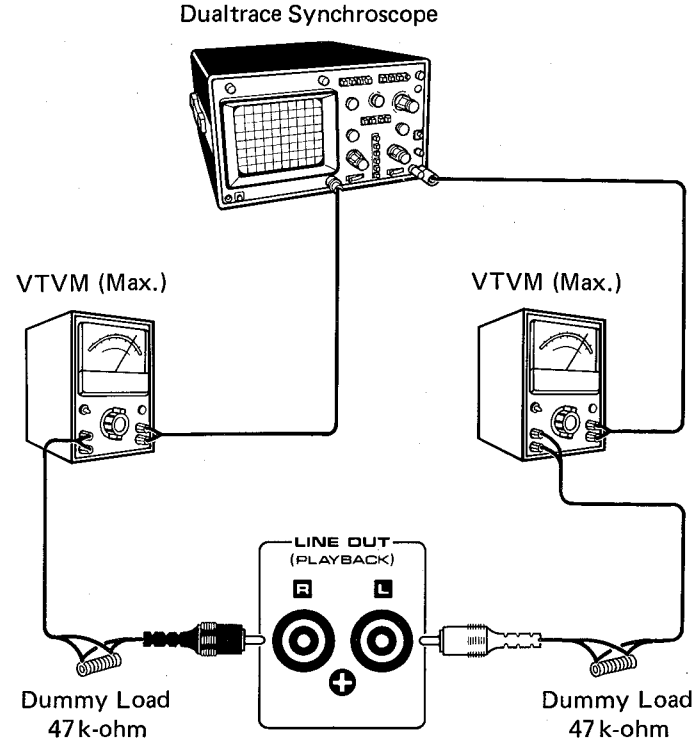
1. Remove the Cover and Back Panel from the unit and connect the frequency counter to the right or left channel LINE OUT as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette holder.




2. While playing back the test tape, adjust the tape speed by turning the potentiometer (P601) on the D.D. Motor Governor P.C.Board until the frequency counter reads 3,000Hz (±15Hz).

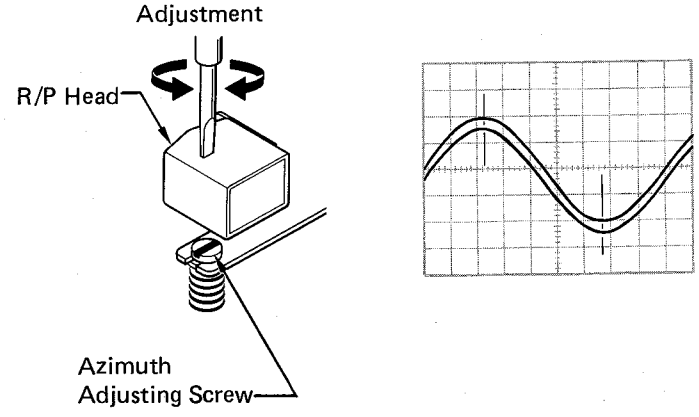
## HEAD AZIMUTH ADJUSTMENT

1. Connect the VTVMs and the dualtrace synchroscope to the both channel LINE OUT as illustrated and then, set the dualtrace synchroscope as follows:
   - * MODE . . . . . CHOP (chopped)
   - * SOURCE . . . . . INT. (internal), CH1 or CH2
   - * SWEEP MODE . . . . . Auto (automatic)




2. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette holder and play it back.

3. Slowly turn the azimuth adjusting screw until the amplitudes of the right and left channel signal wave forms are at maximum and both wave forms are superimposed. Set to optimum at maximum reading of the VTVMs.



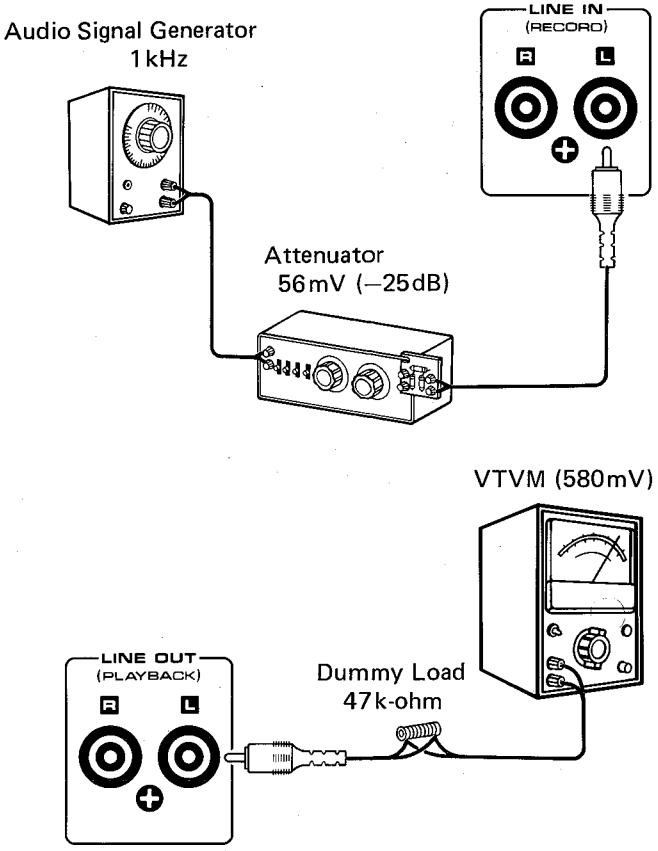

4. After the adjustment, secure the azimuth adjusting screw with paint or glue.

# ELECTRICAL ADJUSTMENTS (Continued)

## METER SENSITIVITY ADJUSTMENT

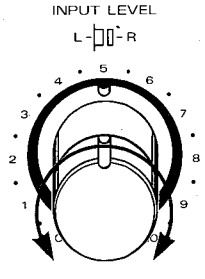
### LEFT CHANNEL

1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated. Then, insert a cassette tape into the cassette holder.

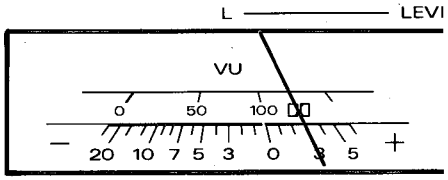



2. Feed the 1kHz signal from the audio signal generator at 178mV (–15dB) into the unit and set the unit in the recording mode.

3. Adjust the left channel Input Level Control (VR1-1) until the VTVM reads 580mV.




4. Keeping the unit in the above condition, adjust the potentiometer (P102) until the pointer of the left channel Meter swings to +3VU (DOLBY mark position) as illustrated.



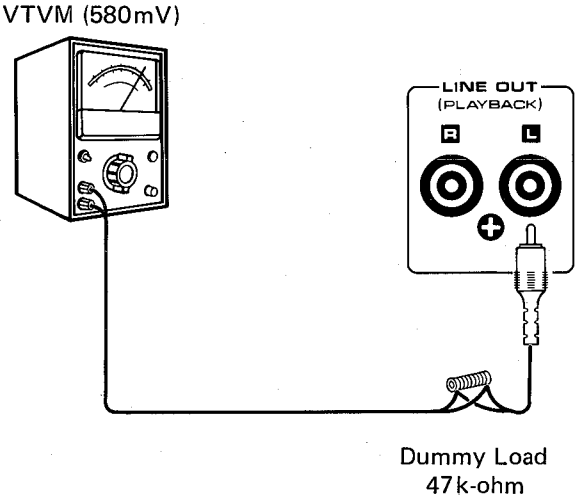

### RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the right channel Input Level Control (VR1-2) and the potentiometer (P202) for the right channel by following the same procedure as LEFT CHANNEL.

## PLAYBACK SENSITIVITY ADJUSTMENT

### LEFT CHANNEL

1. Connect the VTVM to the left channel LINE OUT as illustrated and insert a test tape for DOLBY Calibration Level (Example: TEAC MTT-150) into the cassette holder.




2. While playing back the test tape, adjust the potentiometer (P101) until the playback signal output becomes 580mV on the VTVM.

### RIGHT CHANNEL

Connect the VTVM to the right channel LINE OUT and adjust the potentiometer (P201) for the right channel by following the same procedure as LEFT CHANNEL.

# ELECTRICAL ADJUSTMENTS (Continued)

## RECORD & PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

- **For Metal Tape**

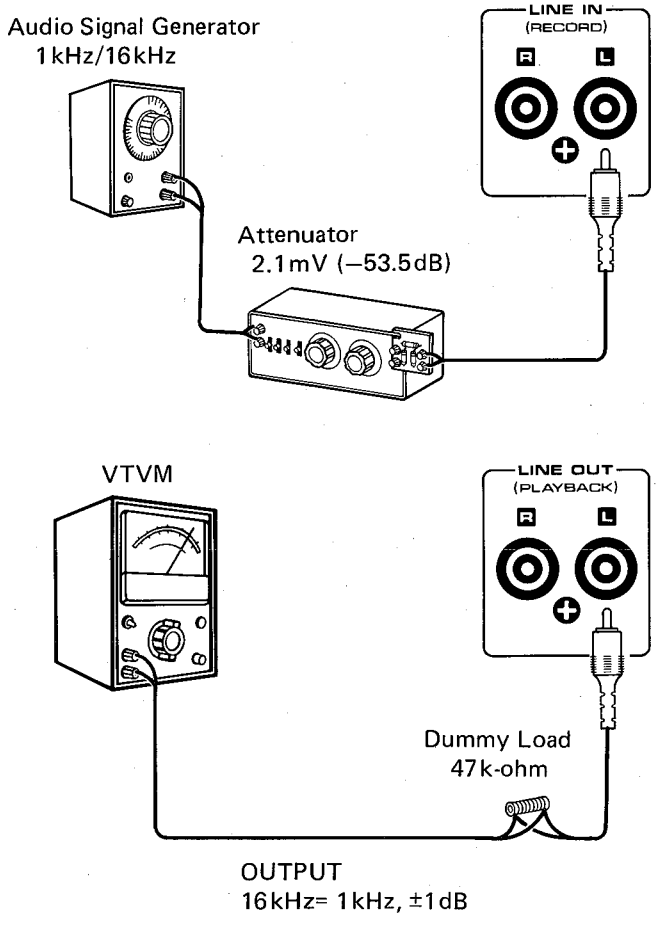
Set the Tape Select Switch to METAL and insert a metal tape (Example: TDK AC-711) into the cassette holder. Then, perform the adjustment by the following procedures.

**LEFT CHANNEL**

1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated.

**NOTE:**

If the specified output was not obtained in the Record & Playback Frequency Response Adjustment for chromium dioxide or normal tapes, repeat the adjustment beginning with the metal tape.




2. Set the unit in the recording mode and feed the signals of 1kHz and 16kHz from the audio signal generator at 7.1mV (–43dB). Then, alternately record them on the tape several times.

3. While playing back the recorded signals, check that the 16kHz signal output is identical to the 1kHz signal output or the deviation is ±1dB on the VTVM.

4. If necessary, adjust the potentiometer (P104) and re-check the output of each signal by playing back the signals after recording operation for the signals.

5. Repeat the above adjustment until the specified output is obtained.

- **For Normal Tape**

Set the Tape Select Switch to NORMAL and insert a normal tape (Example: TDK AC-222) into the cassette holder. Then, perform the adjustment by following the conditions described below and the same procedure as METAL TAPE.

* Input Signals . . . . . 1kHz and 12.5kHz
* Input Level . . . . . 7.1mV (–43dB)
* Potentiometer for adjustment . . . . . P302

**RIGHT CHANNEL**

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P204) for the right channel by following the same procedure as LEFT CHANNEL.

- **For Chromium Dioxide Tape**

Set the Tape Select Switch to CrO2 and insert a chromium dioxide tape (Example: TDK AC-512) into the cassette holder. Then, perform the adjustment by following the conditions described below and the same procedure as METAL TAPE.

* Input Signals . . . . . 1kHz and 14kHz
* Input Level . . . . . 7.1mV (–43dB)
* Potentiometer for adjustment . . . . . P301

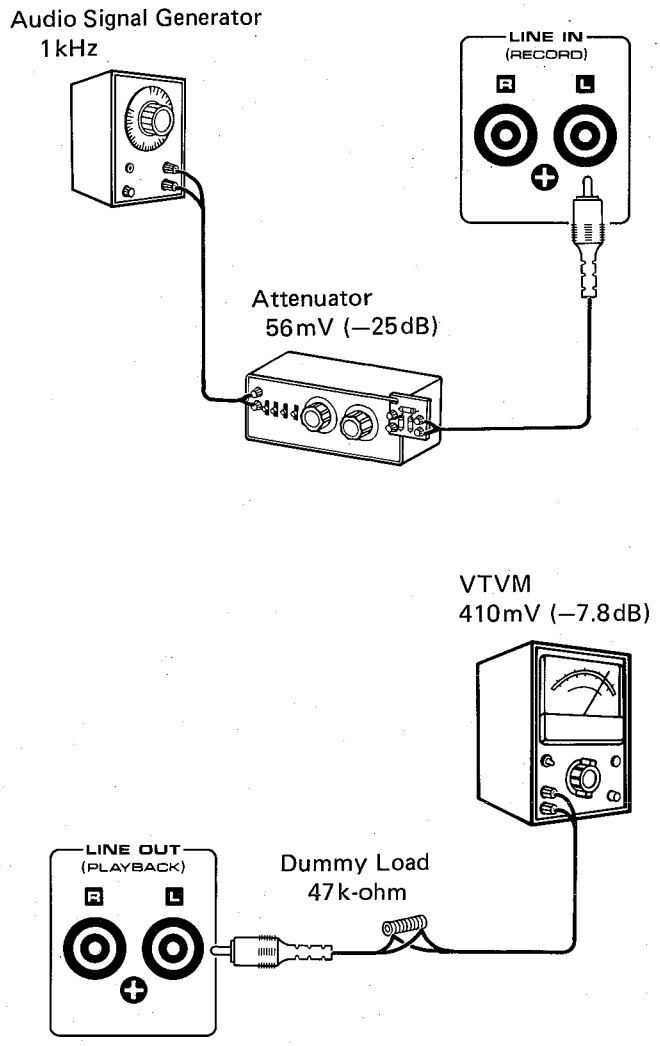
# ELECTRICAL ADJUSTMENTS (Continued)

## RECORDING & PLAYBACK SENSITIVITY ADJUSTMENT

Set the Tape Select Switch to NORMAL and insert a normal tape (Example: TDK AC-222) into the cassette holder. Then, perform the adjustment by the following procedure.

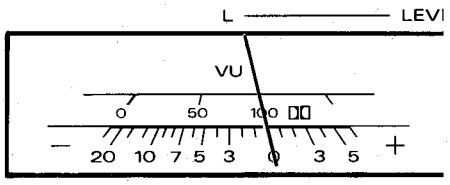
### LEFT CHANNEL

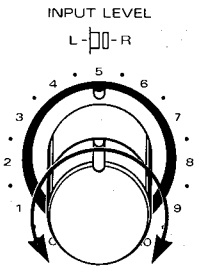
1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated.




2. Set the unit in the record stand-by mode by pressing the Pause button first, and the Record and Play buttons simultaneously.

3. Feed a 1kHz signal from the audio signal generator at 178mV (–15dB) into the unit and adjust the left channel Input Level Control until the VTVM reads 410mV (–7.8dB) [Meter Reading: 0VU]. Then, record the signal on the tape by releasing the Pause button.




4. While playing back the recorded signal, check that the output level is 410mV (–7.8dB) on the VTVM [Meter Reading: 0VU].

5. If necessary, adjust the potentiometer (P103) and re-check the reading of the VTVM by playing back the signal after the recording operation for the signal.

6. Repeat the above adjustment until the specified output is obtained.

### RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the right channel Input Level Control and the potentiometer (P203) for the right channel by following the same procedure as LEFT CHANNEL.

# PARTS LIST

**PRODUCT SAFETY NOTICE**

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **PACKAGE** | | |
| | 141 6 1419 49700 | Individual Carton | 1 |
| | 141 6 1449 67500 | Styrofoam Case | 1 |
| | 141 6 1449 67600 | Styrofoam Case | 1 |
| | 141 6 2519 12390 | Poly Cover | 1 |
| | 141 6 2519 24033 | Poly Cover | 1 |
| | 141 6 4559 03200 | Serial No. Sheet | 3 |
| | **ACCESSORIES** | | |
| | 4 2369 70571 | Patch Cord | 2 |
| | 141 6 4519 19400 | Warranty Card | 1 |
| | 141 6 4729 07700 | Caution Label | 1 |
| | 141 6 4729 32600 | Remote Label | 1 |
| | 142 6 4119 03900 | Instruction Manual | 1 |
| | **CABINET** | | |
| | 141 0 1119 72200 | Front Panel Assy | 1 |
| | 141 0 1249 17500 | Cassette Lid Assy | 1 |
| | 141 0 1619 28900 | Eject Button Assy | 1 |
| | 141 0 1749 00400 | Leg Assy | 4 |
| | 141 2 1119 66300 | Back Panel | 1 |
| | 141 2 1119 66400 | Cover | 1 |
| | 141 2 1619 79500 | Power Button | 1 |
| | 141 2 1619 79800 | Select Button | 7 |
| | 141 2 2449 34300 | Sheet Panel | 1 |
| | 141 2 4219 13200 | Screw, Washer | 2 |
| | 141 2 4219 13601 | Screw | 4 |
| | 141 2 4469 26000 | Cushion | 2 |
| | 141 2 8219 29000 | Spindle, Eject Guide | 1 |
| | 141 2 8219 29500 | Button Guide Bracket | 1 |
| | 141 2 8549 03600 | Spring, Button Guide | 2 |
| | 141 2 8549 03700 | Spring, Select Button | 7 |
| | 141 2 8549 03800 | Spring, Power Button | 2 |
| | 141 2 8549 03900 | Spring, Eject Button | 1 |
| | 101 3 1203 00411 | Screw, Flat Hd. +M3.0x4 | 5 |
| | 101 3 1302 00511 | Screw, Pan Hd. +M2.0x5 | 4 |
| | 102 3 1302 00818 | Screw, Pan Hd. Tapping-1 +M2.0x8 | 1 |
| | 103 3 1203 01011 | Screw, Flat Hd. Tapping-2 +M3.0x10 | 4 |
| | 103 3 1302 60811 | Screw, Pan Hd. Tapping-2 +M2.6x8 | 2 |
| | 103 3 1303 00511 | Screw, Pan Hd. Tapping-2 +M3.0x5 | 4 |
| | 103 3 1303 01018 | Screw, Pan Hd. Tapping-2 +M3.0x10 | 2 |
| | 143 3 1903 00611 | Screw, Brazier Hd. Tapping-B +M3.0x6 | 3 |
| | 141 2 1619 79400 | Switch Knob | 1 |
| | 141 2 1619 79600 | Select Button Switch | 5 |
| | 141 2 1639 38100 | Volume Knob | 1 |
| | 141 2 1639 38200 | Volume Knob | 1 |
| | **METAL INDICATOR P.C.B. ASSY** | | |
| | 4 1329 75970 | Metal Indicator P.C.B. Assy | 1 |
| | 4 2269 33910 | LED P.C.B. | 1 |
| D306 | 4 2029 71160 | LED, SLP-151B (Metal) | 1 |
| | 4 2359 70990 | RT Pin Socket | 2 |
| | **AMPLIFIER P.C.B. ASSY** | | |
| | 4 1329 75820 | Amplifier P.C.B. Assy | 1 |
| | 141 2 3229 27500 | Shield Case | 2 |
| | 141 2 4729 04700 | Staple 10 | 16 |
| | 4 2589 71730 | OSC Block | 1 |
| CN5 | 4 2369 70740 | RT Pin | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **AMPLIFIER P.C.B. ASSY** | | |
| CN6 | 4 2369 70740 | RT Pin | 1 |
| | 4 2359 70990 | RT Pin Socket | 2 |
| C101 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C102 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C103 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C104 | CD1 0 5500 0000V | Electrolytic 1 µF 50V | 1 |
| C105 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C106 | CC5 6 1500 KE00C | Ceramic 560 pF 50V ±10% | 1 |
| C107 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C108 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C109 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C110 | CM1 0 3500 K00SV | Mylar 0.01 µF 50V ±10% | 1 |
| C111 | CD4 7 6100 0001V | Electrolytic 47 µF 10V | 1 |
| C112 | CC5 6 0500 KD00C | Ceramic 56 pF 50V ±10% | 1 |
| C113 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C114 | CM2 2 3500 K00SV | Mylar 0.022 µF 50V ±10% | 1 |
| C115 | CC2 2 1500 KD00C | Ceramic 220 pF 50V ±10% | 1 |
| C116 | CD1 0 5500 0000V | Electrolytic 1 µF 50V | 1 |
| C117 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C118 | CM4 7 2500 K00SV | Mylar 0.0047 µF 50V ±10% | 1 |
| C119 | CD2 2 7160 0001V | Electrolytic 220 µF 16V | 1 |
| C120 | CM2 7 3500 K00SV | Mylar 0.027 µF 50V ±10% | 1 |
| C121 | CM5 6 2500 K00SV | Mylar 0.0056 µF 50V ±10% | 1 |
| C122 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C123 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C124 | CC1 0 2500 KE00C | Ceramic 0.001 µF 50V ±10% | 1 |
| C126 | CD4 7 7160 0001V | Electrolytic 470 µF 16V | 1 |
| C127 | CA3 3 4100 K000V | Aluminum 0.33 µF 10V ±10% | 1 |
| C128 | CA1 0 4100 K000V | Aluminum 0.1 µF 10V ±10% | 1 |
| C129 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C130 | CM4 7 3500 K00SV | Mylar 0.047 µF 50V ±10% | 1 |
| C131 | CD4 7 4500 0000V | Electrolytic 0.47 µF 50V | 1 |
| C132 | CD4 7 4500 0000V | Electrolytic 0.47 µF 50V | 1 |
| C133 | CA4 7 4250 K000V | Aluminum 0.47 µF 25V ±10% | 1 |
| C134 | CC1 5 0500 KD00C | Ceramic 15 pF 50V ±10% | 1 |
| C135 | CD1 0 7100 0001V | Electrolytic 100 µF 10V | 1 |
| C136 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C137 | CA4 7 4250 K000V | Aluminum 0.47 µF 25V ±10% | 1 |
| C138 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C139 | CM2 7 3500 K00SV | Mylar 0.027 µF 50V ±10% | 1 |
| C140 | CM4 7 3500 K00SV | Mylar 0.047 µF 50V ±10% | 1 |
| C141 | CM4 7 3500 K00SV | Mylar 0.047 µF 50V ±10% | 1 |
| C142 | CM1 8 3500 K00SV | Mylar 0.018 µF 50V ±10% | 1 |
| C143 | CC6 8 0500 KD00C | Ceramic 68 pF 50V ±10% | 1 |
| C144 | CC1 0 1500 KE00C | Ceramic 100 pF 50V ±10% | 1 |
| C145 | CD1 0 5500 0000V | Electrolytic 1 µF 50V | 1 |
| C146 | CM3 9 3500 K00SV | Mylar 0.039 µF 50V ±10% | 1 |
| C147 | CC6 8 1500 KD00C | Ceramic 680 pF 50V ±10% | 1 |
| C201 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C202 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C203 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C204 | CD1 0 5500 0000V | Electrolytic 1 µF 50V | 1 |
| C205 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C206 | CC5 6 1500 KE00C | Ceramic 560 pF 50V ±10% | 1 |
| C207 | CD1 0 6250 0001V | Electrolytic 10 µF 25V | 1 |
| C208 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C209 | CD1 0 6160 0001V | Electrolytic 10 µF 16V | 1 |
| C210 | CM1 0 3500 K00SV | Mylar 0.01 µF 50V ±10% | 1 |
| C211 | CD4 7 6100 0001V | Electrolytic 47 µF 10V | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| C212 | CC5 6 0500 KD00C | Ceramic 56 pF 50V ±10% | 1 |
| C213 | CD1 0 6250 0001V | Electrolytic 10 μF 25V | 1 |
| C214 | CM2 2 3500 K00SV | Mylar 0.022 μF 50V ±10% | 1 |
| C215 | CC2 2 1500 KD00C | Ceramic 220 pF 50V ±10% | 1 |
| C216 | CD1 0 5500 0000V | Electrolytic 1 μF 50V | 1 |
| C217 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C218 | CM4 7 2500 K00SV | Mylar 0.0047 μF 50V ±10% | 1 |
| C219 | CD2 2 7160 0001V | Electrolytic 220 μF 16V | 1 |
| C220 | CM2 7 3500 K00SV | Mylar 0.027 μF 50V ±10% | 1 |
| C221 | CM5 6 2500 K00SV | Mylar 0.0056 μF 50V ±10% | 1 |
| C222 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C223 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C224 | CC1 0 2500 KE00C | Ceramic 0.001 μF 50V ±10% | 1 |
| C226 | CD4 7 7160 0001V | Electrolytic 470 μF 16V | 1 |
| C227 | CA3 3 4100 K000V | Aluminum 0.33 μF 10V ±10% | 1 |
| C228 | CA1 0 4100 K000V | Aluminum 0.1 μF 10V ±10% | 1 |
| C229 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C230 | CM4 7 3500 K00SV | Mylar 0.047 μF 50V ±10% | 1 |
| C231 | CD4 7 4500 0000V | Electrolytic 0.47 μF 50V | 1 |
| C232 | CD4 7 4500 0000V | Electrolytic 0.47 μF 50V | 1 |
| C233 | CA4 7 4250 K000V | Aluminum 0.47 μF 25V ±10% | 1 |
| C234 | CC1 5 0500 KD00C | Ceramic 15 pF 50V ±10% | 1 |
| C235 | CD1 0 7100 0001V | Electrolytic 100 μF 10V | 1 |
| C236 | CD1 0 6250 0001V | Electrolytic 10 μF 25V | 1 |
| C237 | CA4 7 4250 K000V | Aluminum 0.47 μF 25V ±10% | 1 |
| C238 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C239 | CM2 7 3500 K00SV | Mylar 0.027 μF 50V ±10% | 1 |
| C240 | CM4 7 3500 K00SV | Mylar 0.047 μF 50V ±10% | 1 |
| C241 | CM4 7 3500 K00SV | Mylar 0.047 μF 50V ±10% | 1 |
| C242 | CM1 8 3500 K00SV | Mylar 0.018 μF 50V ±10% | 1 |
| C243 | CC6 8 0500 KD00C | Ceramic 68 pF 50V ±10% | 1 |
| C244 | CC1 0 1500 KE00C | Ceramic 100 pF 50V ±10% | 1 |
| C245 | CD1 0 5500 0000V | Electrolytic 1 μF 50V | 1 |
| C246 | CM3 9 3500 K00SV | Mylar 0.039 μF 50V ±10% | 1 |
| C247 | CC6 8 1500 KD00C | Ceramic 680 pF 50V ±10% | 1 |
| C301 | CD2 2 7250 0001V | Electrolytic 220 μF 25V | 1 |
| C302 | CD4 7 6160 0001V | Electrolytic 47 μF 16V | 1 |
| C303 | CD1 0 7160 0001V | Electrolytic 100 μF 16V | 1 |
| C304 | CD2 2 6160 0001V | Electrolytic 22 μF 16V | 1 |
| C305 | CD1 0 5500 0000V | Electrolytic 1 μF 50V | 1 |
| C307 | CD4 7 7250 0001V | Electrolytic 470 μF 25V | 1 |
| C308 | CD1 0 5500 0000V | Electrolytic 1 μF 50V | 1 |
| CN3 | 4 2369 71452 | Connector 6P | 1 |
| CN4 | 4 2369 71482 | Connector 3P | 1 |
| D102 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D103 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D104 | 4 2029 71040 | Diode, RD5.6JB | 1 |
| D105 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D120 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D121 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D122 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D202 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D203 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D204 | 4 2029 71040 | Diode, RD5.6JB | 1 |
| D205 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D220 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D221 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D222 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D301 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D302 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D303 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D304 | 4 2029 71440 | Diode, 1SS95 | 1 |
| D305 | 4 2029 71440 | Diode, 1SS95 | 1 |
| IC101 | 4 2069 70380 | IC, NE646B | 1 |
| IC201 | 4 2069 70380 | IC, NE646B | 1 |
| L101 | 4 2729 70400 | Filter Coil | 1 |
| L102 | 4 2729 70250 | Coil (3.3 mH) | 1 |
| L103 | 4 2729 70250 | Coil (3.3 mH) | 1 |
| L104 | 4 2729 70310 | Shield Coil (33 mH) | 1 |
| L201 | 4 2729 70400 | Filter Coil | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| L202 | 4 2729 70250 | Coil (3.3 mH) | 1 |
| L203 | 4 2729 70250 | Coil (3.3 mH) | 1 |
| L204 | 4 2729 70310 | Shield Coil (33 mH) | 1 |
| P101 | 4 2229 72970 | Potentiometer (B-50 k ohm) | 1 |
| P102 | 4 2229 72968 | Potentiometer (B-20 k ohm) | 1 |
| P103 | 4 2229 72970 | Potentiometer (B-50 k ohm) | 1 |
| P104 | 4 2229 72971 | Potentiometer (B-100 k ohm) | 1 |
| P201 | 4 2229 72970 | Potentiometer (B-50 k ohm) | 1 |
| P202 | 4 2229 72968 | Potentiometer (B-20 k ohm) | 1 |
| P203 | 4 2229 72970 | Potentiometer (B-50 k ohm) | 1 |
| P204 | 4 2229 72971 | Potentiometer (B-100 k ohm) | 1 |
| P301 | 4 2229 72966 | Potentiometer (B-5 k ohm) | 1 |
| P302 | 4 2229 72965 | Potentiometer (B-3 k ohm) | 1 |
| Q101 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q102 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q103 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q104 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q105 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q106 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q107 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q108 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q111 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q112 | 4 2039 70431 | Transistor, 1SC1815 | 1 |
| Q113 | 203 5 4921 01265 | Transistor, 2SD1012 | 1 |
| Q114 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q115 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q116 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q117 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q201 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q202 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q203 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q204 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q205 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q206 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q207 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q208 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q211 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q212 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q213 | 203 5 4921 01265 | Transistor, 2SD1012 | 1 |
| Q214 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q215 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q216 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q217 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q301 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q302 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q303 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q304 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q305 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q306 | 203 5 4570 73460 | Transistor, 2SD734 | 1 |
| Q307 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| R101 | RP2 2 3121 JH000 | Pretty 22 k ohm 1/8W ±5% | 1 |
| R102 | RP2 7 3121 JH000 | Pretty 27 k ohm 1/8W ±5% | 1 |
| R103 | RP1 8 1121 JH000 | Pretty 180 ohm 1/8W ±5% | 1 |
| R104 | RP5 6 3121 JH000 | Pretty 56 k ohm 1/8W ±5% | 1 |
| R105 | RP6 8 4121 JH000 | Pretty 680 k ohm 1/8W ±5% | 1 |
| R106 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R108 | RP3 3 3121 JH000 | Pretty 33 k ohm 1/8W ±5% | 1 |
| R109 | RP1 2 2121 JH000 | Pretty 1.2 k ohm 1/8W ±5% | 1 |
| R110 | RP5 6 3121 JH000 | Pretty 56 k ohm 1/8W ±5% | 1 |
| R111 | RP2 2 4121 JH000 | Pretty 220 k ohm 1/8W ±5% | 1 |
| R112 | RP6 8 2121 JH000 | Pretty 6.8 k ohm 1/8W ±5% | 1 |
| R113 | RP1 5 1121 JH000 | Pretty 150 ohm 1/8W ±5% | 1 |
| R114 | RP1 5 4121 JH000 | Pretty 150 k ohm 1/8W ±5% | 1 |
| R115 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R116 | RD2 7 4251 JV000 | Carbon 270 k ohm 1/4W ±5% | 1 |
| R117 | RP1 5 3121 JH000 | Pretty 15 k ohm 1/8W ±5% | 1 |
| R118 | RP5 6 4121 JH000 | Pretty 560 k ohm 1/8W ±5% | 1 |
| R119 | RP1 1 3121 JH000 | Pretty 11 k ohm 1/8W ±5% | 1 |
| R120 | RP2 2 2121 JH000 | Pretty 2.2 k ohm 1/8W ±5% | 1 |
| R121 | RP2 7 2121 JH000 | Pretty 2.7 k ohm 1/8W ±5% | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| R122 | RP1 0 5121 JH000 | Pretty 1M ohm 1/8W ±5% | 1 |
| R123 | RP5 6 3121 JH000 | Pretty 56 k ohm 1/8W ±5% | 1 |
| R124 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R125 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R126 | RP4 7 3121 JH000 | Pretty 47 k ohm 1/8W ±5% | 1 |
| R127 | RP3 3 2121 JH000 | Pretty 3.3 k ohm 1/8W ±5% | 1 |
| R128 | RP1 0 5121 JH000 | Pretty 1M ohm 1/8W ±5% | 1 |
| R129 | RP1 8 1121 JH000 | Pretty 180 ohm 1/8W ±5% | 1 |
| R130 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R131 | RP1 8 4121 JH000 | Pretty 180 k ohm 1/8W ±5% | 1 |
| R132 | RP2 7 4121 JH000 | Pretty 270 k ohm 1/8W ±5% | 1 |
| R133 | RP4 7 3121 JH000 | Pretty 47 k ohm 1/8W ±5% | 1 |
| R134 | RP4 7 3121 JH000 | Pretty 47 k ohm 1/8W ±5% | 1 |
| R136 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R137 | RP2 4 3121 JH000 | Pretty 24 k ohm 1/8W ±5% | 1 |
| R138 | RP8 2 1121 JH000 | Pretty 820 ohm 1/8W ±5% | 1 |
| R139 | RP2 7 4121 JH000 | Pretty 270 k ohm 1/8W ±5% | 1 |
| R140 | RP8 2 2121 JH000 | Pretty 8.2 k ohm 1/8W ±5% | 1 |
| R141 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R142 | RP1 8 3121 JH000 | Pretty 18 k ohm 1/8W ±5% | 1 |
| R143 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R144 | RP2 7 3121 JH000 | Pretty 27 k ohm 1/8W ±5% | 1 |
| R145 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R146 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R147 | RP1 2 4121 JH000 | Pretty 120 k ohm 1/8W ±5% | 1 |
| R148 | RP6 8 1121 JH000 | Pretty 680 ohm 1/8W ±5% | 1 |
| R149 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R150 | RP2 7 2121 JH000 | Pretty 2.7 k ohm 1/8W ±5% | 1 |
| R152 | RP2 7 2121 JH000 | Pretty 2.7 k ohm 1/8W ±5% | 1 |
| R154 | RP3 9 2121 JH000 | Pretty 3.9 k ohm 1/8W ±5% | 1 |
| R155 | RP1 5 3121 JH000 | Pretty 15 k ohm 1/8W ±5% | 1 |
| R156 | RP1 0 1121 JH000 | Pretty 100 ohm 1/8W ±5% | 1 |
| R157 | RP1 2 2121 JH000 | Pretty 1.2 k ohm 1/8W ±5% | 1 |
| R158 | RP1 8 2121 JH000 | Pretty 1.8 k ohm 1/8W ±5% | 1 |
| R159 | RP1 0 1121 JH000 | Pretty 100 ohm 1/8W ±5% | 1 |
| R160 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R163 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R164 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R165 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R166 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R167 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R168 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R169 | RP2 2 2121 JH000 | Pretty 2.2 k ohm 1/8W ±5% | 1 |
| R171 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R190 | RH3 9 1501 KH000 | Metal 390 ohm 1/2W ±10% | 1 |
| R201 | RP2 2 3121 JH000 | Pretty 22 k ohm 1/8W ±5% | 1 |
| R202 | RP2 7 3121 JH000 | Pretty 27 k ohm 1/8W ±5% | 1 |
| R203 | RP1 8 1121 JH000 | Pretty 180 ohm 1/8W ±5% | 1 |
| R204 | RP5 6 3121 JH000 | Pretty 56 k ohm 1/8W ±5% | 1 |
| R205 | RP6 8 4121 JH000 | Pretty 680 k ohm 1/8W ±5% | 1 |
| R206 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R208 | RP3 3 3121 JH000 | Pretty 33 k ohm 1/8W ±5% | 1 |
| R209 | RP1 2 2121 JH000 | Pretty 1.2 k ohm 1/8W ±5% | 1 |
| R210 | RP5 6 3121 JH000 | Pretty 56 k ohm 1/8W ±5% | 1 |
| R211 | RP2 2 4121 JH000 | Pretty 220 k ohm 1/8W ±5% | 1 |
| R212 | RP6 8 2121 JH000 | Pretty 6.8 k ohm 1/8W ±5% | 1 |
| R213 | RP1 5 1121 JH000 | Pretty 150 ohm 1/8W ±5% | 1 |
| R214 | RP1 5 4121 JH000 | Pretty 150 k ohm 1/8W ±5% | 1 |
| R215 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R216 | RD2 7 4251 JV000 | Carbon 270 k ohm 1/4W ±5% | 1 |
| R217 | RP1 5 3121 JH000 | Pretty 15 k ohm 1/8W ±5% | 1 |
| R218 | RP5 6 4121 JH000 | Pretty 560 k ohm 1/8W ±5% | 1 |
| R219 | RP1 1 3121 JH000 | Pretty 11 k ohm 1/8W ±5% | 1 |
| R220 | RP2 2 2121 JH000 | Pretty 2.2 k ohm 1/8W ±5% | 1 |
| R221 | RP2 7 2121 JH000 | Pretty 2.7 k ohm 1/8W ±5% | 1 |
| R222 | RP1 0 5121 JH000 | Pretty 1M ohm 1/8W ±5% | 1 |
| R223 | RP5 6 3121 JH000 | Pretty 56 k ohm 1/8W ±5% | 1 |
| R224 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R225 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R226 | RP4 7 3121 JH000 | Pretty 47 k ohm 1/8W ±5% | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| R227 | RP3 3 2121 JH000 | Pretty 3.3 k ohm 1/8W ±5% | 1 |
| R228 | RP1 0 5121 JH000 | Pretty 1M ohm 1/8W ±5% | 1 |
| R229 | RP1 8 1121 JH000 | Pretty 180 ohm 1/8W ±5% | 1 |
| R230 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R231 | RP1 8 4121 JH000 | Pretty 180 k ohm 1/8W ±5% | 1 |
| R232 | RP2 7 4121 JH000 | Pretty 270 k ohm 1/8W ±5% | 1 |
| R233 | RP4 7 3121 JH000 | Pretty 47 k ohm 1/8W ±5% | 1 |
| R234 | RP4 7 3121 JH000 | Pretty 47 k ohm 1/8W ±5% | 1 |
| R236 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R237 | RP2 4 3121 JH000 | Pretty 24 k ohm 1/8W ±5% | 1 |
| R238 | RP8 2 1121 JH000 | Pretty 820 ohm 1/8W ±5% | 1 |
| R239 | RP2 7 4121 JH000 | Pretty 270 k ohm 1/8W ±5% | 1 |
| R240 | RP8 2 2121 JH000 | Pretty 8.2 k ohm 1/8W ±5% | 1 |
| R241 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R242 | RP1 8 3121 JH000 | Pretty 18 k ohm 1/8W ±5% | 1 |
| R243 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R244 | RP2 7 3121 JH000 | Pretty 27 k ohm 1/8W ±5% | 1 |
| R245 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R246 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R247 | RP1 2 4121 JH000 | Pretty 120 k ohm 1/8W ±5% | 1 |
| R248 | RP6 8 1121 JH000 | Pretty 680 ohm 1/8W ±5% | 1 |
| R249 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R250 | RP2 7 2121 JH000 | Pretty 2.7 k ohm 1/8W ±5% | 1 |
| R252 | RP2 7 2121 JH000 | Pretty 2.7 k ohm 1/8W ±5% | 1 |
| R254 | RP3 9 2121 JH000 | Pretty 3.9 k ohm 1/8W ±5% | 1 |
| R255 | RP1 5 3121 JH000 | Pretty 15 k ohm 1/8W ±5% | 1 |
| R256 | RP1 0 1121 JH000 | Pretty 100 ohm 1/8W ±5% | 1 |
| R257 | RP1 2 2121 JH000 | Pretty 1.2 k ohm 1/8W ±5% | 1 |
| R258 | RP1 8 2121 JH000 | Pretty 1.8 k ohm 1/8W ±5% | 1 |
| R259 | RP1 0 1121 JH000 | Pretty 100 ohm 1/8W ±5% | 1 |
| R260 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R263 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R264 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R265 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R266 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R267 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R268 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R269 | RP2 2 2121 JH000 | Pretty 2.2 k ohm 1/8W ±5% | 1 |
| R271 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R290 | RH3 9 1501 KH000 | Metal 390 ohm 1/2W ±10% | 1 |
| R301 | RP1 5 2121 JH000 | Pretty 1.5 k ohm 1/8W ±5% | 1 |
| R302 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R303 | RP6 8 3121 JH000 | Pretty 68 k ohm 1/8W ±5% | 1 |
| R304 | RP1 0 4121 JH000 | Pretty 100 k ohm 1/8W ±5% | 1 |
| R305 | RP5 6 3121 JH000 | Pretty 56 k ohm 1/8W ±5% | 1 |
| R306 | RP4 7 3121 JH000 | Pretty 47 k ohm 1/8W ±5% | 1 |
| R307 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R308 | RP2 7 3121 JH000 | Pretty 27 k ohm 1/8W ±5% | 1 |
| R309 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R310 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R311 | RP1 0 3121 JH000 | Pretty 10 k ohm 1/8W ±5% | 1 |
| R312 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R351 | RD2 7 2251 JV000 | Carbon 2.7 k ohm 1/4W ±5% | 1 |
| R352 | RD1 0 3251 JV000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R353 | RD2 7 2251 JV000 | Carbon 2.7 k ohm 1/4W ±5% | 1 |
| R354 | RD2 7 2251 JV000 | Carbon 2.7 k ohm 1/4W ±5% | 1 |
| R355 | RD1 0 2251 JV000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R362 | RD2 2 2251 JV000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| S1 | 4 2319 71803 | Slide Switch (Record/Play Switch) | 1 |
| S2 | 4 2319 74560 | Select Switch | 1 |
| VR1 | 4 2229 71762 | Volume Control (Input Level, A-20k) | 1 |
| | CONTROL CIRCUIT P.C.B. ASSY | | |
| | 4 1329 75830 | Control Circuit P.C.B. Assy | 1 |
| C501 | CD1 0 7100 0001V | Electrolytic 100 µF 10V | 1 |
| C502 | 4 2239 70600 | Capacitor 10 µF 16V ±10% | 1 |
| C503 | CA2 2 5100 M000V | Aluminum 2.2 µF 10V ±20% | 1 |
| C504 | 4 2239 70600 | Capacitor 10 µF 16V ±10% | 1 |
| C505 | CD4 7 4500 0000V | Electrolytic 0.47 µF 50V | 1 |
| C506 | CD2 2 6100 0001V | Electrolytic 22 µF 10V | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | CONTROL CIRCUIT P.C.B. ASSY | | |
| C507 | CD3 3 7100 0001V | Electrolytic 330 μF 10V | 1 |
| C508 | CD1 0 5500 0000V | Electrolytic 1 μF 50V | 1 |
| C509 | CD4 7 6100 0001V | Electrolytic 47 μF 10V | 1 |
| C510 | CD4 7 6100 0001V | Electrolytic 47 μF 10V | 1 |
| C511 | CD3 3 6100 0001V | Electrolytic 33 μF 10V | 1 |
| C512 | CC1 0 4500 ZG00C | Ceramic 0.1 μF 50V +80, –20% | 1 |
| C513 | CD1 0 5500 0000V | Electrolytic 1 μF 50V | 1 |
| C514 | CD4 7 763A 0001V | Electrolytic 470 μF 6.3V | 1 |
| C515 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C516 | CM4 7 3500 K00SV | Mylar 0.047 μF 50V ±10% | 1 |
| C517 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C518 | CD1 0 6160 0001V | Electrolytic 10 μF 16V | 1 |
| C519 | CC1 0 3500 ZG00C | Ceramic 0.01 μF 50V +80, –20% | 1 |
| C520 | CC1 0 3500 ZG00C | Ceramic 0.01 μF 50V +80, –20% | 1 |
| C521 | CC1 0 3500 ZG00C | Ceramic 0.01 μF 50V +80, –20% | 1 |
| C522 | CC1 0 3500 ZG00C | Ceramic 0.01 μF 50V +80, –20% | 1 |
| C523 | CC1 0 3500 ZG00C | Ceramic 0.01 μF 50V +80, –20% | 1 |
| C524 | CC1 0 3500 ZG00C | Ceramic 0.01 μF 50V +80, –20% | 1 |
| C525 | CC1 0 3500 ZG00C | Ceramic 0.01 μF 50V +80, –20% | 1 |
| C526 | CD1 0 8160 0001V | Electrolytic 1000 μF 16V | 1 |
| C527 | CD1 0 6250 0001V | Electrolytic 10 μF 25V | 1 |
| CN1 | 4 2369 71641 | Side Connector 12P | 1 |
| CN2 | 4 2369 72940 | Connector 8P | 1 |
| D501 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D502 | 203 5 2810 44210 | Diode, DS442 | 1 |
| D503 | 203 5 2810 44210 | Diode, DS442 | 1 |
| D504 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D505 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D506 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D507 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D508 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D509 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D510 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D511 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D512 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D513 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D514 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D515 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D516 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D517 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D518 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D519 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D520 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D521 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D522 | 203 5 2810 44210 | Diode, DS442 | 1 |
| D523 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D524 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D525 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D526 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D527 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D528 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D530 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D531 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D532 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D533 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D534 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D535 | 202 5 2810 44210 | Diode, DS442 | 1 |
| D551 | 202 5 2450 13540 | Diode, DS135 | 1 |
| D552 | 202 5 2450 13540 | Diode, DS135 | 1 |
| D553 | 202 5 2450 13540 | Diode, DS135 | 1 |
| D554 | 202 5 3210 08210 | Diode, GZA8.2L | 1 |
| D555 | 202 5 9530 44810 | Diode, DS448 | 1 |
| IC501 | 4 2069 70390 | IC, TC9121P | 1 |
| IC502 | 4 2069 70310 | IC, MC14011B | 1 |
| IC503 | 4 2069 70310 | IC, MC14011B | 1 |
| Q501 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q502 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q503 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q504 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q505 | 4 2039 70431 | Transistor, 2SC1815 | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | CONTROL CIRCUIT P.C.B. ASSY | | |
| Q506 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q507 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q508 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q509 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q510 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q511 | 203 5 4580 69850 | Transistor, 2SB698 | 1 |
| Q512 | 203 5 4580 69850 | Transistor, 2SB698 | 1 |
| Q513 | 203 5 4580 69850 | Transistor, 2SB698 | 1 |
| Q514 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q515 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q516 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q517 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q518 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q519 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q520 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q521 | 203 5 6940 54560 | Transistor, 2SD545 | 1 |
| Q522 | 203 5 4570 73460 | Transistor, 2SD734 | 1 |
| Q523 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| R501 | RD4 7 2251 JM000 | Carbon 4.7 k ohm 1/4W ±5% | 1 |
| R502 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R503 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R504 | RD1 0 5251 JM000 | Carbon 1M ohm 1/4W ±5% | 1 |
| R505 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R506 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R507 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R508 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R509 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R510 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R511 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R512 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R513 | RD3 3 3251 JM000 | Carbon 33 k ohm 1/4W ±5% | 1 |
| R514 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R515 | RD2 7 2251 JM000 | Carbon 2.7 k ohm 1/4W ±5% | 1 |
| R516 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R518 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R519 | RD5 6 4251 JM000 | Carbon 560 k ohm 1/4W ±5% | 1 |
| R520 | RD3 3 3251 JM000 | Carbon 33 k ohm 1/4W ±5% | 1 |
| R521 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R522 | RD2 2 2251 JM000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| R523 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R524 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R525 | RD1 0 5251 JM000 | Carbon 1M ohm 1/4W ±5% | 1 |
| R526 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R527 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R528 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R529 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R530 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R531 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R533 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R534 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R535 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R537 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R538 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R539 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R540 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R541 | RD4 7 1251 JM000 | Carbon 470 ohm 1/4W ±5% | 1 |
| R542 | RD4 7 1251 JM000 | Carbon 470 ohm 1/4W ±5% | 1 |
| R543 | RD2 2 1251 JM000 | Carbon 220 ohm 1/4W ±5% | 1 |
| R544 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R545 | RD4 7 1251 JM000 | Carbon 470 ohm 1/4W ±5% | 1 |
| R546 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R547 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R548 | RD4 7 1251 JM000 | Carbon 470 ohm 1/4W ±5% | 1 |
| R549 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R550 | RD5 6 1251 JM000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R551 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R552 | RD4 7 1251 JM000 | Carbon 470 ohm 1/4W ±5% | 1 |
| R553 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R554 | RD8 2 1251 JM000 | Carbon 820 ohm 1/4W ±5% | 1 |
| R555 | RD9 1 1251 JM000 | Carbon 910 ohm 1/4W ±5% | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **CONTROL CIRCUIT P.C.B. ASSY** | | |
| R556 | RD4 7 2251 JM000 | Carbon 4.7 k ohm 1/4W ±5% | 1 |
| R557 | RD1 5 2251 JM000 | Carbon 1.5 k ohm 1/4W ±5% | 1 |
| R558 | RD5 6 1251 JM000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R559 | RD5 6 1251 JM000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R560 | RD1 5 2251 JM000 | Carbon 1.5 k ohm 1/4W ±5% | 1 |
| R561 | RD4 7 2251 JM000 | Carbon 4.7 k ohm 1/4W ±5% | 1 |
| R562 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R563 | RD3 3 3251 JM000 | Carbon 33 k ohm 1/4W ±5% | 1 |
| R564 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R565 | RD8 2 0251 JM000 | Carbon 82 ohm 1/4W ±5% | 1 |
| R566 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R567 | RD1 5 3251 JM000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R568 | RD1 5 4251 JM000 | Carbon 150 k ohm 1/4W ±5% | 1 |
| R569 | RD3 3 1251 JM000 | Carbon 330 ohm 1/4W ±5% | 1 |
| R570 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R571 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R573 | RD1 5 2251 JM000 | Carbon 1.5 k ohm 1/4W ±5% | 1 |
| R580 | RH3 3 0102 KZ000 | Metal 33 ohm 1W ±10% | 1 |
| R581 | RD5 6 2251 JN000 | Carbon 5.6 k ohm 1/4W ±5% | 1 |
| | **POWER SUPPLY P.C.B. ASSY** | | |
| | 4 1329 75840 | Power Supply P.C.B. Assy | 1 |
| | 201 2 5010 01401 | Mica Sheet | 1 |
| | ⚠ 4 2359 70910 | Fuse Holder | 4 |
| F1 | ⚠ 4 2349 70040 | Fuse (500 mA) | 1 |
| F2 | ⚠ 4 2349 70370 | Fuse 1.6AT | 1 |
| C701 | CD1 0 8160 0001V | Electrolytic 1000 µF 16V | 1 |
| C702 | CD4 7 7160 0001V | Electrolytic 470 µF 16V | 1 |
| C703 | CD4 7 7250 0001V | Electrolytic 470 µF 25V | 1 |
| C704 | CD2 2 8250 0001V | Electrolytic 2200 µF 25V | 1 |
| C705 | CD1 0 8350 0001V | Electrolytic 1000 µF 35V | 1 |
| C706 | CC4 7 3500 ZG00C | Ceramic 0.047 µF 50V +80, −20% | 1 |
| C707 | CC4 7 3500 ZG00C | Ceramic 0.047 µF 50V +80, −20% | 1 |
| C708 | CC4 7 3500 ZG00C | Ceramic 0.047 µF 50V +80, −20% | 1 |
| C709 | CC4 7 3500 ZG00C | Ceramic 0.047 µF 50V +80, −20% | 1 |
| D701 | 202 5 3210 13020 | Diode, GZA13U | 1 |
| D702 | 202 5 3210 24020 | Diode, GZA24U | 1 |
| D703 | 4 2029 70620 | Bridge Diode | 1 |
| D704 | 4 2029 70620 | Bridge Diode | 1 |
| R701 | RD1 0 0251 JM000 | Carbon 10 ohm 1/4W ±5% | 1 |
| R702 | RD1 0 0251 JM000 | Carbon 10 ohm 1/4W ±5% | 1 |
| R703 | RD5 6 1251 JM000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R704 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R705 | RD3 3 A251 JM000 | Carbon 3.3 ohm 1/4W ±5% | 1 |
| R706 | RH2 7 0202 KZ000 | Metal 27 ohm 2W ±10% | 1 |
| | **IC REVERSE P.C.B. ASSY** | | |
| | 4 1329 76890 | IC Reverse P.C.B. Assy | 1 |
| | 4 2269 33940 | IC Reverse P.C.B. | 1 |
| IC504 | 4 2069 70870 | IC, µPC1447H | 1 |
| | **IC HALL P.C.B. ASSY** | | |
| | 4 1329 76900 | IC Hall P.C.B. Assy | 1 |
| IC505 | 4 2069 70190 | IC, DN835 | 1 |
| | 4 2269 33920 | IC Hall P.C.B. | 1 |
| | **LINE JACK P.C.B. ASSY** | | |
| | 4 1329 76910 | Line Jack P.C.B. Assy | 1 |
| J3 | 4 2359 73602 | Jack 2P (Line In) | 1 |
| J4 | 4 2359 73602 | Jack 2P (Line Out) | 1 |
| J5 | 4 2359 74850 | DIN Socket 8P (Remote Control Jack) | 1 |
| | 4 2359 74622 | Connector 8P Assy | 1 |
| C309 | CC1 0 3500 ZG00C | Ceramic 0.01 µF 50V +80, −20% | 1 |
| C310 | CD3 3 7250 0001V | Electrolytic 330 µF 25V | 1 |
| D101 | 4 2029 71040 | Diode, RD5.6JB | 1 |
| D201 | 4 2029 71040 | Diode, RD5.6JB | 1 |
| Q109 | 203 5 4921 01265 | Transistor, 2SD1012 | 1 |
| Q110 | 203 5 4921 01265 | Transistor, 2SD1012 | 1 |
| Q209 | 203 5 4921 01265 | Transistor, 2SD1012 | 1 |
| Q210 | 203 5 4921 01265 | Transistor, 2SD1012 | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **LINE JACK P.C.B. ASSY** | | |
| R107 | RP3 9 3121 JH000 | Pretty 39 k ohm 1/8W ±5% | 1 |
| R135 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R162 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R170 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R207 | RP3 9 3121 JH000 | Pretty 39 k ohm 1/8W ±5% | 1 |
| R235 | RP1 0 2121 JH000 | Pretty 1 k ohm 1/8W ±5% | 1 |
| R262 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| R270 | RP1 2 3121 JH000 | Pretty 12 k ohm 1/8W ±5% | 1 |
| | **24V TRANSISTOR P.C.B. ASSY** | | |
| | 4 1329 76930 | 24V Transistor P.C.B. Assy | 1 |
| | 4 2269 35450 | 24V Transistor P.C.B. | 1 |
| Q701 | 4 2039 70601 | Transistor, 2SC1846 | 1 |
| | **13V TRANSISTOR P.C.B. ASSY** | | |
| | 4 1329 76940 | 13V Transistor P.C.B. Assy | 1 |
| | 4 2269 33890 | Transistor P.C.B. | 1 |
| Q702 | 203 5 7330 61261 | Transistor, 2SD612 | 1 |
| | **MICROPHONE P.C.B. ASSY** | | |
| | 4 1329 76880 | Microphone Jack P.C.B. Assy | 1 |
| | 4 2269 33930 | Microphone P.C.B. | 1 |
| J1 | 4 2359 73904 | Jack 1P (Microphone) | 1 |
| J2 | 4 2359 73904 | Jack 1P (Microphone) | 1 |
| | **SWITCH BOARD ASSY** | | |
| | 4 2319 74661 | Switch Board Assy | 1 |
| | 4 2319 74660 | Switch Board | 1 |
| | 141 2 3529 21700 | Gum Contact | 7 |
| CN1 | 4 2359 73161 | Connector 12P Assy | 1 |
| | **COMPLETED D.D. MOTOR** | | |
| M1 | 4 5279 71031 | Completed D.D. Motor | 1 |
| | 141 0 5729 04100 | Holder Assy | 1 |
| | 141 0 5219 07100 | Flywheel Assy | 1 |
| | 141 2 4539 06900 | Washer | 2 |
| | 141 2 8519 89000 | Spring, Motor Adjust | 4 |
| | 101 3 1302 60611 | Screw, Pan Hd. +M2.6x6 | 4 |
| | 141 0 3519 19101 | D.D. Governor P.C.B. Assy | 1 |
| | **D.D. GOVERNOR P.C.B. ASSY** | | |
| | 141 0 3519 19101 | D.D. Governor P.C.B. Assy | 1 |
| | 141 2 3519 51200 | Flywheel Bracket | 1 |
| | 141 2 7519 51500 | Post, Support Screw | 1 |
| | 141 2 4219 10300 | Screw, Flywheel Support | 1 |
| | 141 2 4179 00700 | Nut, Dial Shaft | 1 |
| | 101 3 1202 00823 | Screw, Flat Hd. +M2.0x8 | 6 |
| C601 | CD1 0 5160 0000V | Electrolytic 1 µF 16V | 1 |
| C602 | CD1 0 4250 0000V | Electtolytic 0.1 µF 25V | 1 |
| C603 | CD1 0 4250 0000V | Electrolytic 0.1 µF 25V | 1 |
| C604 | CD1 0 4250 0000V | Electrolytic 0.1 µF 25V | 1 |
| C605 | CD1 0 4250 0000V | Electrolytic 0.1 µF 25V | 1 |
| C606 | CM1 8 3500 J00SV | Mylar 0.018 µF 50V ±5% | 1 |
| C607 | CC8 2 2500 KE00C | Ceramic 0.0082 µF 50V ±10% | 1 |
| C608 | CC8 2 2500 KE00C | Ceramic 0.0082 µF 50V ±10% | 1 |
| C609 | CT1 0 4350 M00DV | Tantalum 0.1 µF 35V ±20% | 1 |
| C610 | CD2 2 6160 0000V | Electrolytic 22 µF 16V | 1 |
| C611 | CD3 3 6160 0000V | Electrolytic 33 µF 16V | 1 |
| C612 | CI4 7 3250 KF00C | Boundary 0.047 µF 25V | 1 |
| D601 | 202 5 3210 12010 | Diode, GZA12L | 1 |
| Q601 | 203 5 4580 69860 | Transistor, 2SB698 | 1 |
| Q602 | 203 5 4580 69860 | Transistor, 2SB698 | 1 |
| Q603 | 203 5 4580 69860 | Transistor, 2SB698 | 1 |
| Q604 | 203 5 5100 53660 | Transistor, 2SC536 | 1 |
| Q605 | 203 5 5100 53660 | Transistor, 2SC536 | 1 |
| R601 | RD1 2 4251 JV000 | Carbon 120 k ohm 1/4W ±5% | 1 |
| R602 | RD1 0 3251 JV000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R603 | RD1 0 2251 JV000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R604 | RD1 0 2251 JV000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R605 | RD1 0 2251 JV000 | Carbon 1 k ohm 1/4W ±5% | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **D.D. GOVERNOR P.C.B. ASSY** | | |
| R606 | RD5 6 4251 JV000 | Carbon 560 k ohm 1/4W ±5% | 1 |
| R607 | RD1 0 2251 JV000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R608 | RD1 0 1251 JV000 | Carbon 100 ohm 1/4W ±5% | 1 |
| R609 | RD5 6 1251 JV000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R610 | RD1 0 0251 JV000 | Carbon 10 ohm 1/4W ±5% | 1 |
| VR601 | 4 2229 72969 | Potentiometer (B-30 k ohm) | 1 |
| | 4 2269 33290 | Detection P.C.B. | 1 |
| IC601 | 4 2039 70670 | IC, DN6839 | 1 |
| IC602 | 4 2039 70670 | IC, DN6839 | 1 |
| IC603 | 4 2039 70670 | IC, DN6839 | 1 |
| IC604 | 206 5 2491 60110 | IC, LB1601 | 1 |
| | 4 2649 70350 | Armature | 6 |
| | 141 2 8619 01700 | Core Armature | 1 |
| | **MECHANISM** | | |
| C710 | ⚠ 4 2239 70490 | Capacitor 0.01 μ | 1 |
| S10 | 4 2319 74361 | Leaf Switch (Eject) | 1 |
| S11 | 4 2319 74361 | Leaf Switch (Interlock) | 1 |
| S12 | 4 2319 73151 | Slide Switch (Timer) | 1 |
| S13 | ⚠ 4 2319 72356 | Power Switch | 1 |
| S14 | ⚠ 4 2319 72140 | Slide Switch (Voltage Select) | 1 |
| CN3 | 4 2359 74462 | Connector 6P Assy | 1 |
| CN4 | 4 2359 74287 | Connector 3P Assy | 1 |
| | ⚠ 4 2379 70560 | Terminal | 1 |
| | 4 2379 70650 | Ring Terminal | 2 |
| HD1 | 4 2429 71570 | R/P Head | 1 |
| HD2 | 4 2429 71580 | Erase Head | 1 |
| | ⚠ 4 2439 70356 | Power Cord | 1 |
| T701 | ⚠ 4 2519 73340 | Power Transformer | 1 |
| SL1 | 4 2649 70370 | Solenoid (Slide Base) | 1 |
| SL2 | 4 2649 70380 | Solenoid (F.F./Rewind) | 1 |
| SL3 | 4 2649 70380 | Solenoid (Record/Play) | 1 |
| ME1 | 4 5119 70670 | Indicator | 1 |
| M2 | 4 5279 70745 | Motor (Reel) | 1 |
| PL1 | 4 6129 70510 | Lamp (Cassette) | 1 |
| PL2 | 4 6129 70520 | Lamp (Meter) | 1 |
| | 141 0 1619 29000 | Joint Bracket Assy | 1 |
| | 141 0 3119 19001 | Chassis Assy | 1 |
| | 141 0 3169 06001 | Chassis Bracket Assy | 1 |
| | 141 0 3169 06200 | Chassis Bracket Assy | 1 |
| | 141 0 3519 19001 | Plunger Bracket Assy | 1 |
| | 141 0 3719 00400 | Reel Bracket Assy | 1 |
| | 141 0 5319 05500 | Reel Disk Assy | 1 |
| | 141 0 5459 01500 | Pinch Roller Arm Assy | 1 |
| | 141 0 5519 07800 | Supporter Idler Assy | 1 |
| | 141 0 5519 08100 | Counter Pulley Assy | 1 |
| | 141 0 5559 06000 | Idler Arm Assy | 1 |
| | 141 0 7149 01700 | Brake Assy | 1 |
| | 141 0 7319 21801 | Cassette Lid Plate Assy | 1 |
| | 141 0 7319 21900 | Slide Base Assy | 1 |
| | 141 0 7319 22000 | Slide Plate Assy, Spring | 1 |
| | 141 0 7419 24300 | Brake Lever Assy | 1 |
| | 141 2 1149 22400 | Meter Frame | 1 |
| | 141 2 1149 22500 | Meter Cover | 1 |
| | 141 2 1249 25300 | Cassette Lid Frame | 1 |
| | 141 2 2419 24400 | Sheet | 1 |
| | 141 2 3119 13800 | Cabinet Chassis | 1 |
| | 141 2 3119 13900 | Cabinet Chassis | 1 |
| | 141 2 3169 16601 | Supporter Bracket | 1 |
| | 141 2 3519 38200 | Fix Pin Holder | 1 |
| | 141 2 3519 51000 | Cassette Holder | 1 |
| | 141 2 3519 51100 | Cassette Holder | 1 |
| | 141 2 3519 52600 | Plunger Bracket | 1 |
| | 141 2 3529 18102 | Spacer, Head | 1 |
| | 141 2 3719 05200 | Transformer Bracket | 1 |
| | 141 2 3739 02900 | Lamp Holder | 1 |
| | 141 2 3739 05700 | Transistor Holder | 1 |
| | 141 2 3769 10300 | Post Link | 1 |
| | 141 2 3769 10400 | Post Link | 1 |
| | 141 2 3779 18000 | P.C.B. Bracket | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **MECHANISM** | | |
| | 141 2 3899 06800 | Cord Holder | 1 |
| | 141 2 3899 06900 | Clamp, Power Cord | 1 |
| | 141 2 4359 22500 | Capacitor Cover | 1 |
| | 141 2 4359 25200 | Insulator | 1 |
| | 141 2 4359 26501 | Insulator | 1 |
| | 141 2 4459 03500 | Cassette Case Cushion | 1 |
| | 141 2 4469 31900 | Cushion | 1 |
| | 141 2 4469 32900 | Dumper | 1 |
| | 141 2 4469 35600 | Cushion | 1 |
| | 141 2 4539 01800 | Washer | 2 |
| | 141 2 4539 06400 | Washer | 2 |
| | 141 2 4539 06700 | Washer | 1 |
| | 141 2 4539 21100 | Washer | 1 |
| | 141 2 4729 04000 | Lug | 1 |
| | 141 2 4729 04100 | Lug | 2 |
| | 141 2 4729 04200 | Lug | 2 |
| | 141 2 4729 05300 | Wire Band | 5 |
| | 141 2 4729 06800 | Earth Lug | 1 |
| | 141 2 5319 07000 | Fin Reel | 1 |
| | 141 2 5319 07001 | Fin Reel | 1 |
| | 141 2 5319 08400 | Reel Disk | 1 |
| | 141 2 5369 00400 | Cap, Reel Plate | 2 |
| | 141 2 5419 01000 | Pinch Roller | 1 |
| | 141 2 5519 37000 | Stopper Disk, Spring | 1 |
| | 141 2 5519 37300 | Idler | 1 |
| | 141 2 5519 37500 | Stopper Slide Base | 1 |
| | 141 2 5649 04200 | Counter Belt | 1 |
| | 141 2 5649 16700 | Counter Belt | 1 |
| | 141 2 7319 42900 | Slide Plate Bracket | 1 |
| | 141 2 7359 02200 | Record Wire | 1 |
| | 141 2 7419 62402 | Eject Lever | 1 |
| | 141 2 7419 68500 | Plunger Brake Lever | 1 |
| | 141 2 7419 68600 | Slide Base Lever | 1 |
| | 141 2 7419 72600 | Base Lever | 1 |
| | 141 2 7519 51300 | Lid Pin | 2 |
| | 141 2 7529 58200 | Spacer | 2 |
| | 141 2 7529 82900 | Spacer, Guide Base | 3 |
| | 141 2 7529 85100 | Link Pin | 2 |
| | 141 2 8119 06501 | Counter | 1 |
| | 141 2 8219 23902 | Ball Guide | 1 |
| | 141 2 8259 00100 | Ball | 1 |
| | 141 2 8259 07900 | Roller | 1 |
| | 141 2 8419 10300 | Interlock Lever | 1 |
| | 141 2 8519 01200 | Spring, Slide Power Switch Arm | 1 |
| | 141 2 8519 03600 | Spring, Shut-off Lever | 1 |
| | 141 2 8519 04800 | Spring, Rewind Lever | 1 |
| | 141 2 8519 38700 | Spring, Head Lever | 1 |
| | 141 2 8519 58500 | Spring, Azimuth | 1 |
| | 141 2 8519 75800 | Spring, Reel | 1 |
| | 141 2 8519 76300 | Spring, Plunger | 1 |
| | 141 2 8519 78800 | Spring, Eject | 1 |
| | 141 2 8519 89800 | Spring, Reel | 1 |
| | 141 2 8519 90900 | Spring, Idler | 1 |
| | 141 2 8519 96000 | Spring, Brake | 1 |
| | 141 2 8519 96100 | Spring, Pinch Roller | 1 |
| | 141 2 8519 96200 | Spring, Idler Arm | 1 |
| | 141 2 8519 99600 | Spring, Interlock | 1 |
| | 141 2 8519 99700 | Spring, Plunger | 1 |
| | 141 2 8539 31300 | Spring, Cassette | 1 |
| | 141 2 8539 33100 | Spring, Cassette Holder | 2 |
| | 141 2 8539 40801 | Spring, Dumper | 2 |
| | 101 3 1202 00411 | Screw, Flat Hd. +M2.0x4 | 4 |
| | 101 3 1202 60411 | Screw, Flat Hd. +M2.6x4 | 3 |
| | 101 3 1202 60511 | Screw, Flat Hd. +M2.6x5 | 2 |
| | 101 3 1302 00311 | Screw, Pan Hd. +M2.0x3 | 2 |
| | 101 3 1302 00411 | Screw, Pan Hd. +M2.0x4 | 2 |
| | 101 3 1302 60311 | Screw, Pan Hd. +M2.6x3 | 1 |
| | 101 3 1302 60411 | Screw, Pan Hd. +M2.6x4 | 1 |
| | 101 3 1302 60511 | Screw, Pan Hd. +M2.6x5 | 3 |
| | 101 3 1303 00611 | Screw, Pan Hd. +M3.0x6 | 2 |

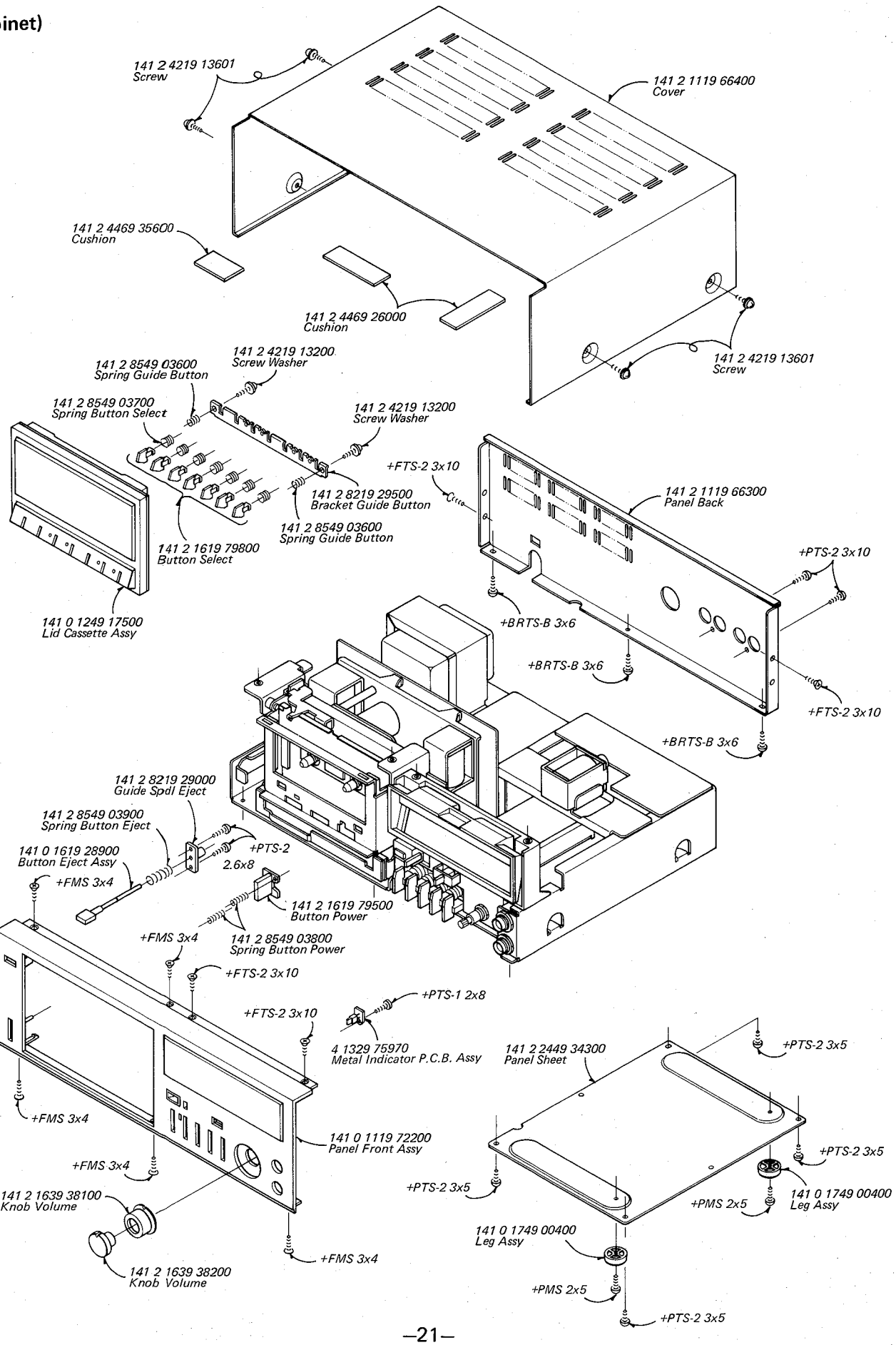
# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | MECHANISM | | |
| | 101 3 1303 01011 | Screw, Pan Hd. +M3.0x10 | 2 |
| | 101 3 1303 01211 | Screw, Pan Hd. +M3.0x12 | 1 |
| | 101 3 1303 01411 | Screw, Pan Hd. +M3.0x14 | 5 |
| | 101 3 1702 00411 | Screw, Bind Hd. +M2.0x4 | 1 |
| | 101 3 1702 00611 | Screw, Bind Hd. +M2.0x6 | 2 |
| | 101 3 1702 61011 | Screw, Bind Hd. +M2.6x10 | 2 |
| | 101 3 1703 00511 | Screw, Bind Hd. +M3.0x5 | 4 |
| | 101 3 1802 00311 | Screw, Truss Hd. +M2.0x3 | 2 |
| | 101 3 1802 00611 | Screw, Truss Hd. +M2.0x6 | 2 |
| | 101 3 1802 60611 | Screw, Truss Hd. +M2.6x6 | 3 |
| | 101 3 2502 00611 | Screw, Cylinder Hd. -M2.0x6 | 1 |
| | 102 3 1702 00611 | Screw, Bind Hd. Tapping-1 +M2.0x6 | 2 |
| | 102 3 1702 00818 | Screw, Bind Hd. Tapping-1 +M2.0x8 | 3 |
| | 110 3 1202 00023 | Finished Washer M2.0 | 1 |
| | 110 3 9260 60025 | Washer M2.6x6.0x0.2 | 2 |
| | 110 3 9410 60025 | Washer M4.1x6.0x0.5 | 1 |
| | 112 3 1301 20040 | E Ring M1.2 | 2 |
| | 112 3 1301 50040 | E Ring M1.5 | 4 |
| | 112 3 1302 00040 | E Ring M2.0 | 4 |
| | 112 3 1302 50040 | E Ring M2.5 | 4 |
| | 112 3 1303 00040 | E Ring M3.0 | 4 |
| | 112 3 1305 00040 | E Ring M5.0 | 1 |
| | 131 3 1302 60611 | Screw, Pan Hd. C SW +M2.6x6 | 5 |
| | 131 3 1303 00411 | Screw, Pan Hd. C SW +M3x4 | 4 |
| | 131 3 1303 00611 | Screw, Pan Hd. C SW +M3.0x6 | 6 |
| | 131 3 1304 00611 | Screw, Pan Hd. C SW +M4.0x6 | 4 |
| | 143 3 1903 00611 | Screw, Brazier Hd. Tapping-B +M3.0x6 | 20 |
| | 103 3 1303 00511 | Screw, Pan Hd. Tapping-2 +M3.0x5 | 1 |
| | 141 2 4579 02300 | Washer | 1 |
| | 135 3 1303 01011 | Screw, Pan Hd. C PW +M3.0x10 | 3 |
| | 143 3 1303 00611 | Screw, Pan Hd. Tapping-B +M3.0x6 | 2 |

NOTES: 1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

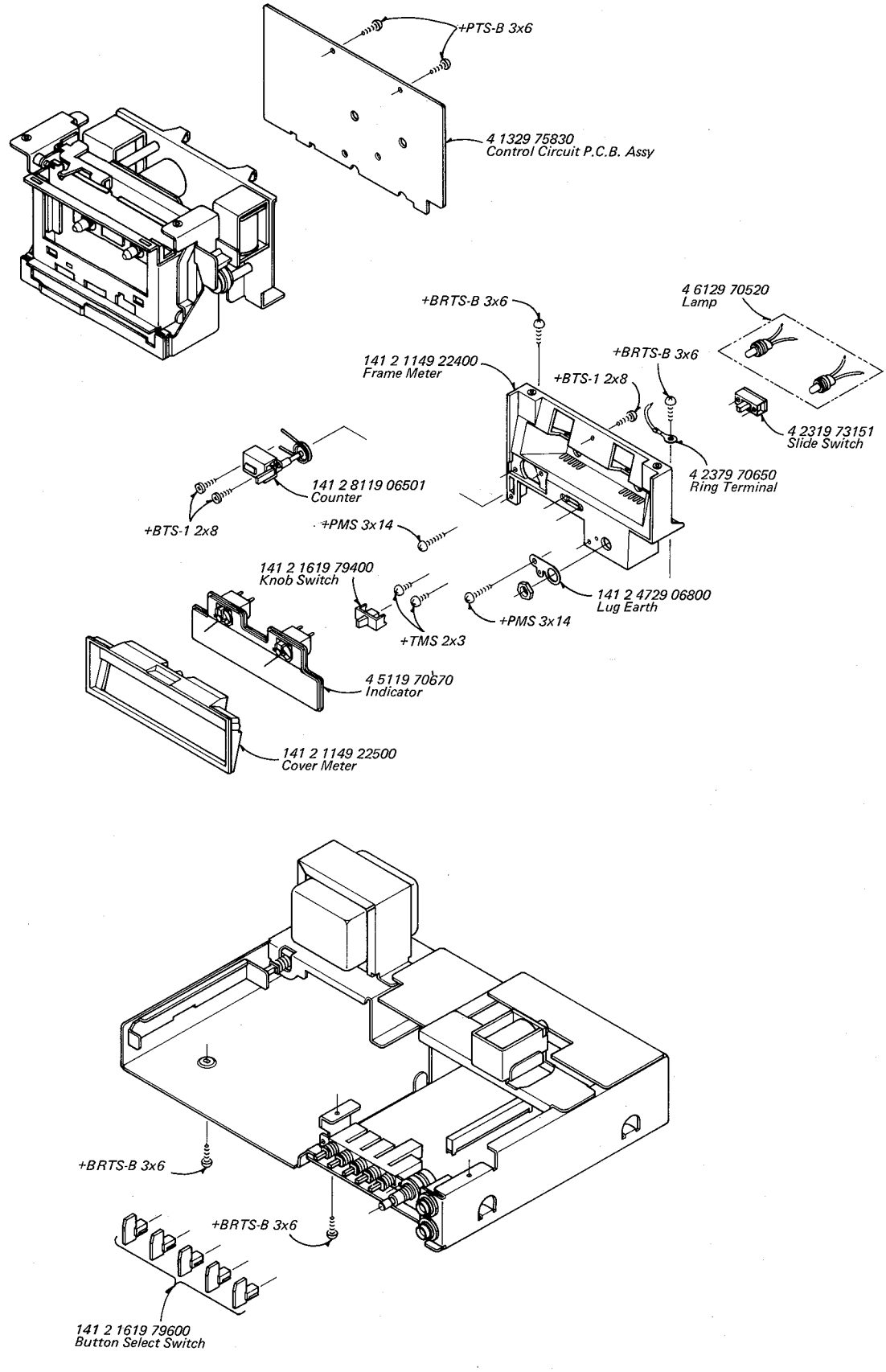
# EXPLODED VIEW

**(Cabinet)**



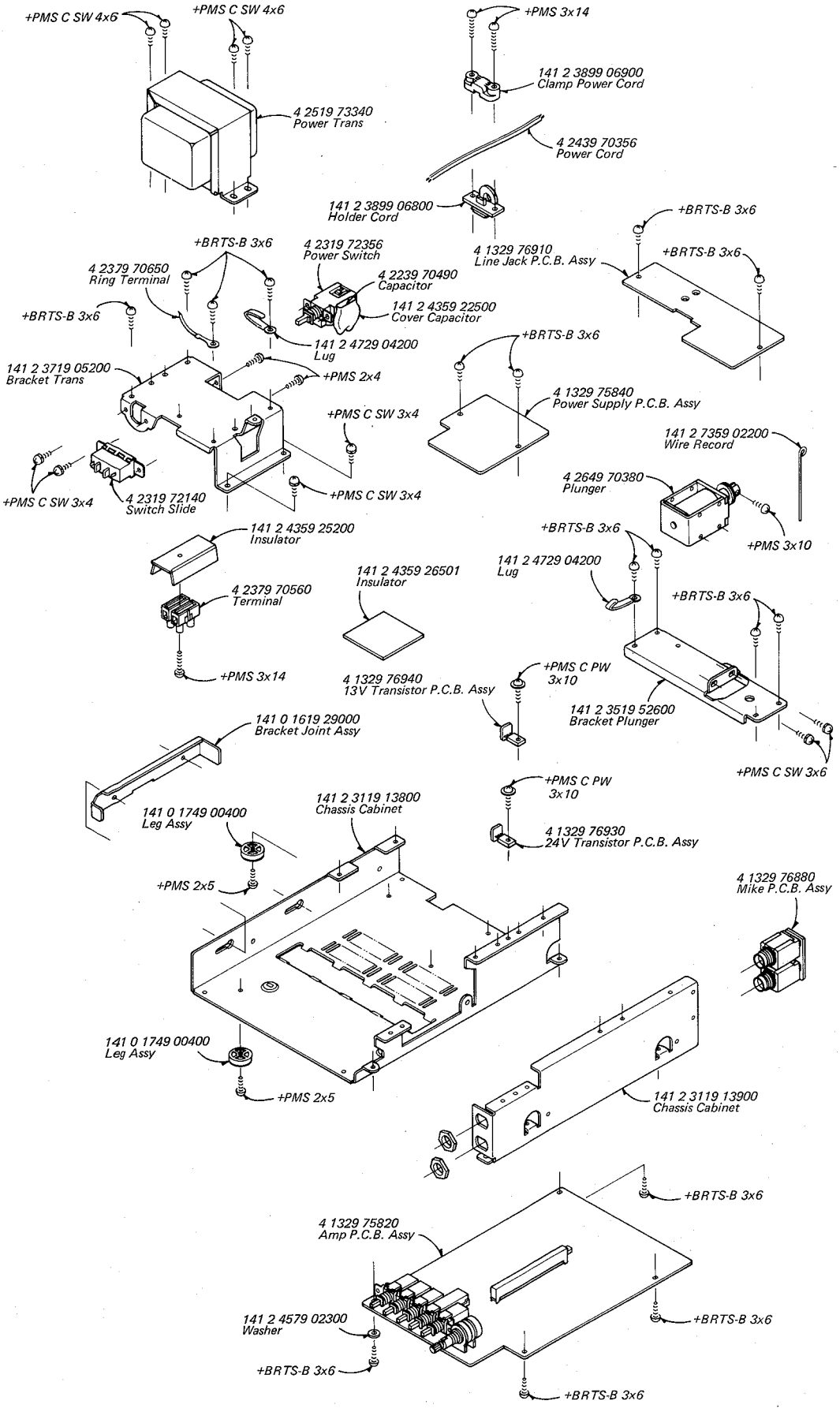
# EXPLODED VIEW (Continued)

**(Chassis A)**



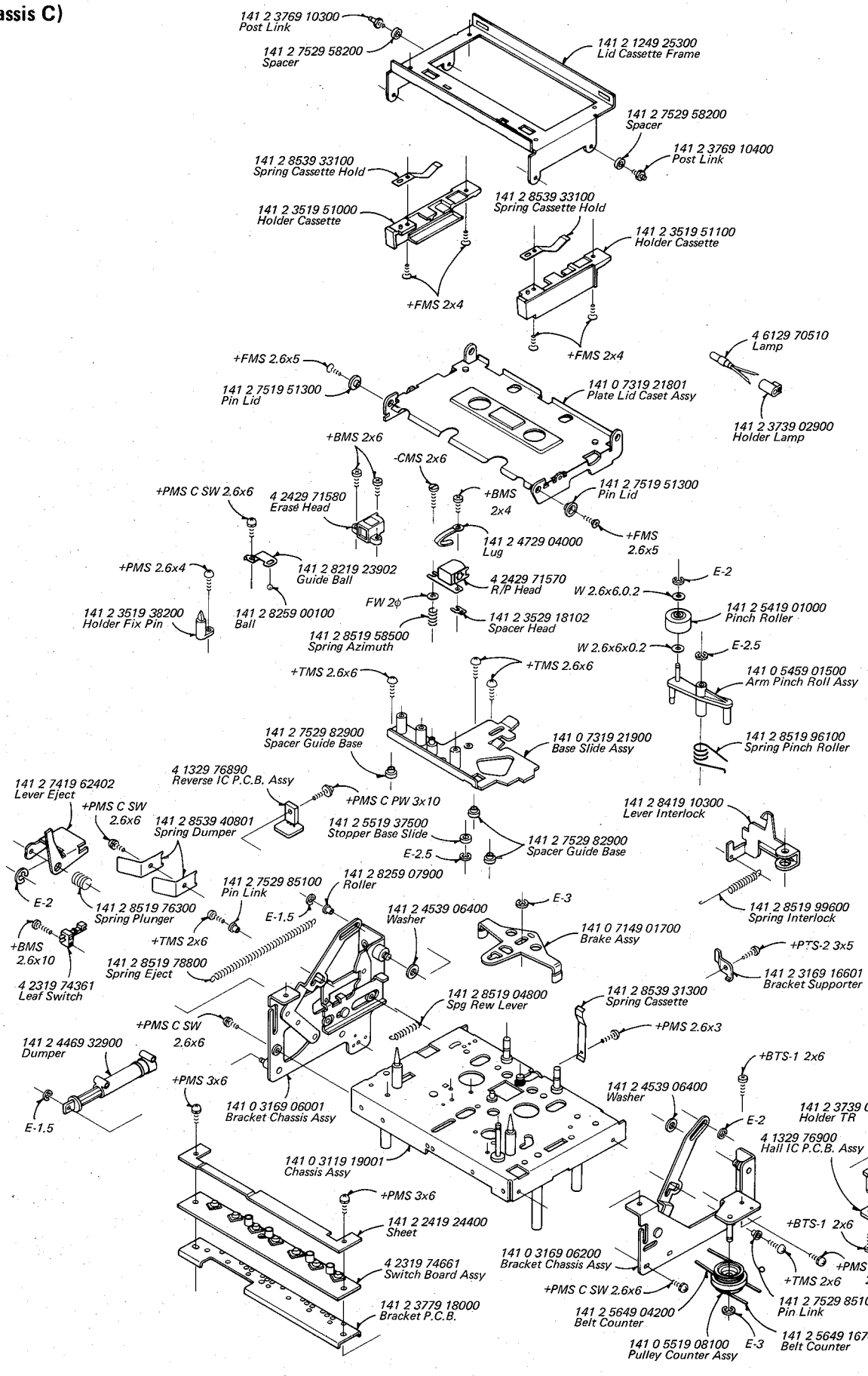
# EXPLODED VIEW (Continued)

**(Chassis B)**



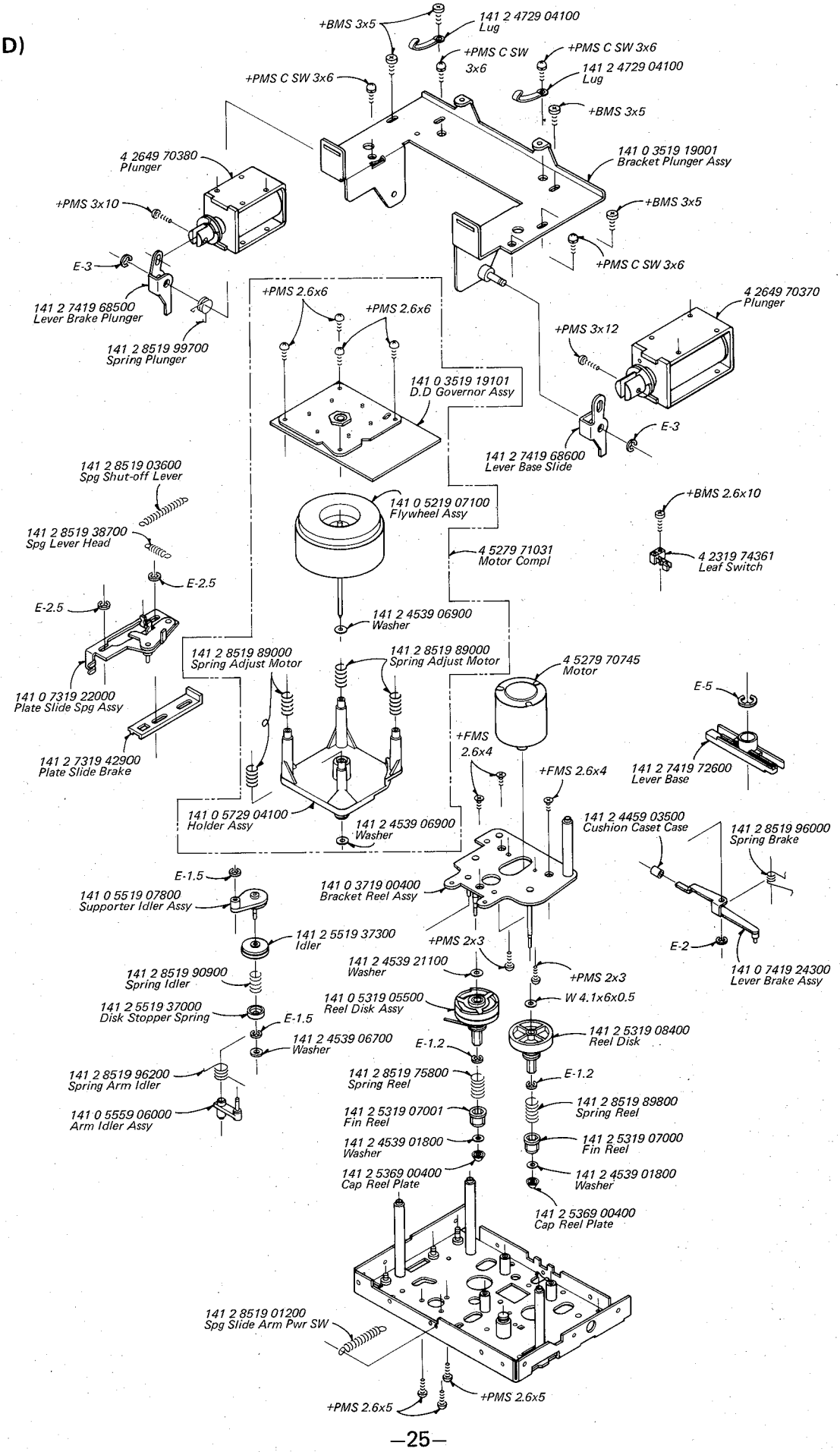
# EXPLODED VIEW (Continued)

**(Chassis C)**



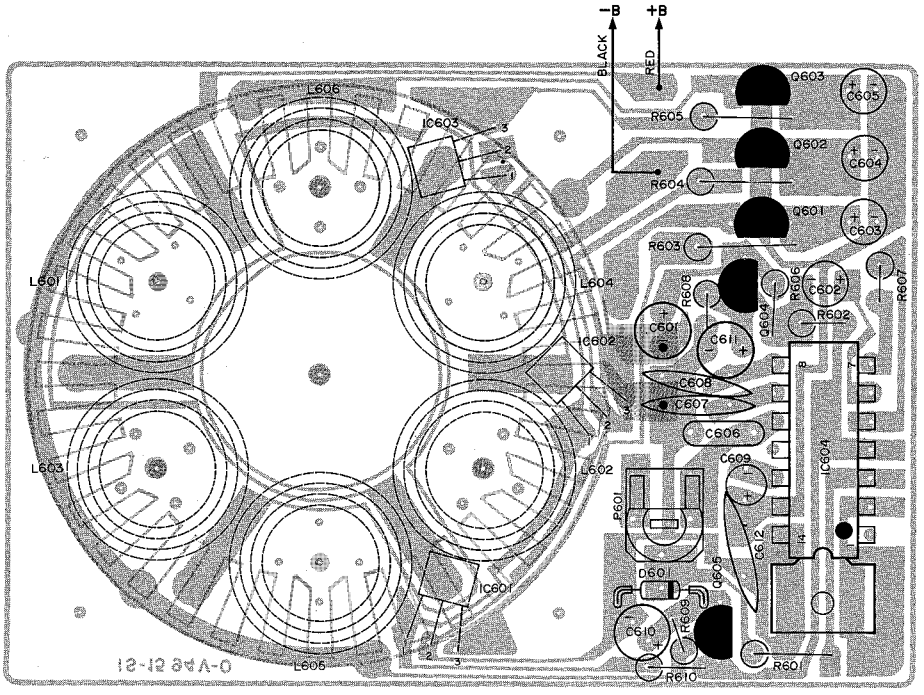
# EXPLODED VIEW (Continued)

**(Chassis D)**

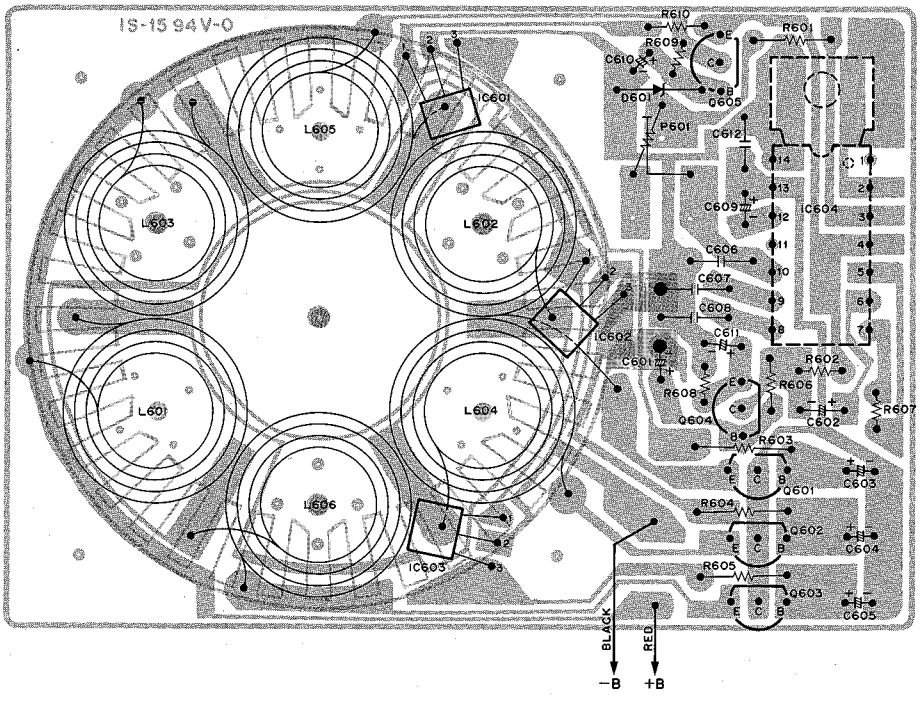


# D.D. MOTOR GOVERNOR P.C.BOARD

**(Top View)**

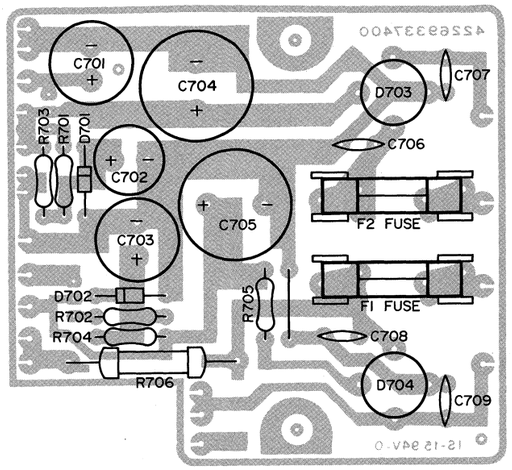



**(Bottom View)**

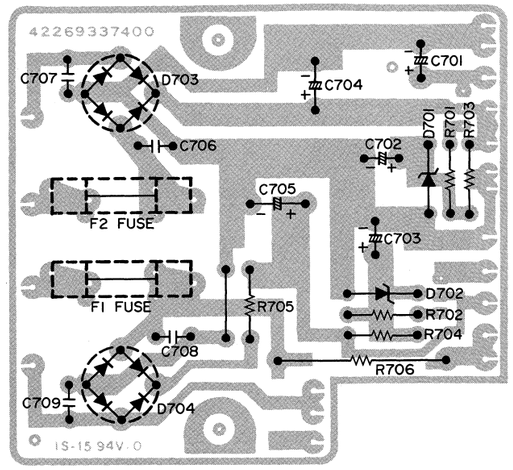


# POWER SUPPLY P.C.BOARD

(Top View)

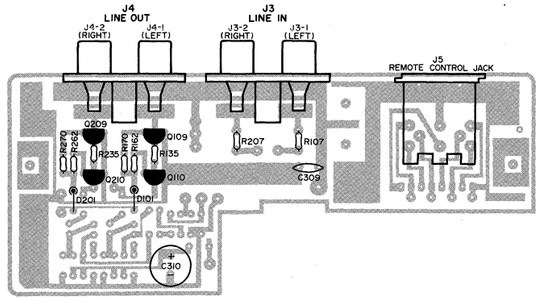



(Bottom View)

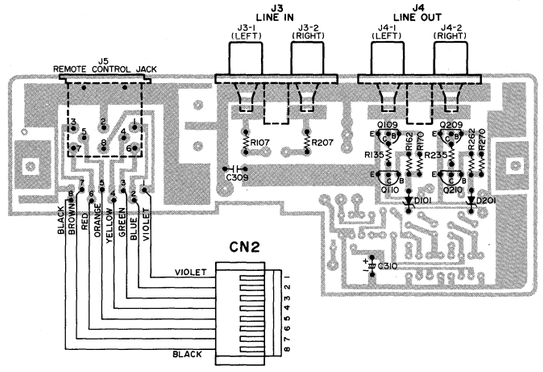



# LINE JACK P.C.BOARD

(Top View)



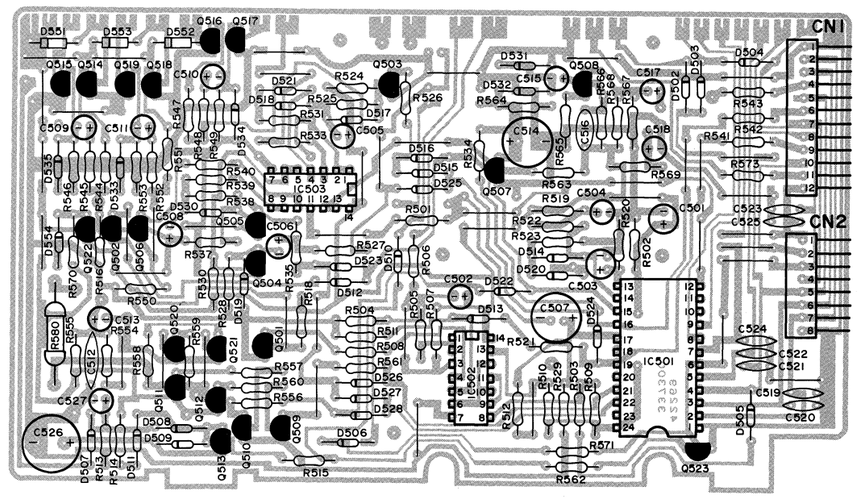

(Bottom View)



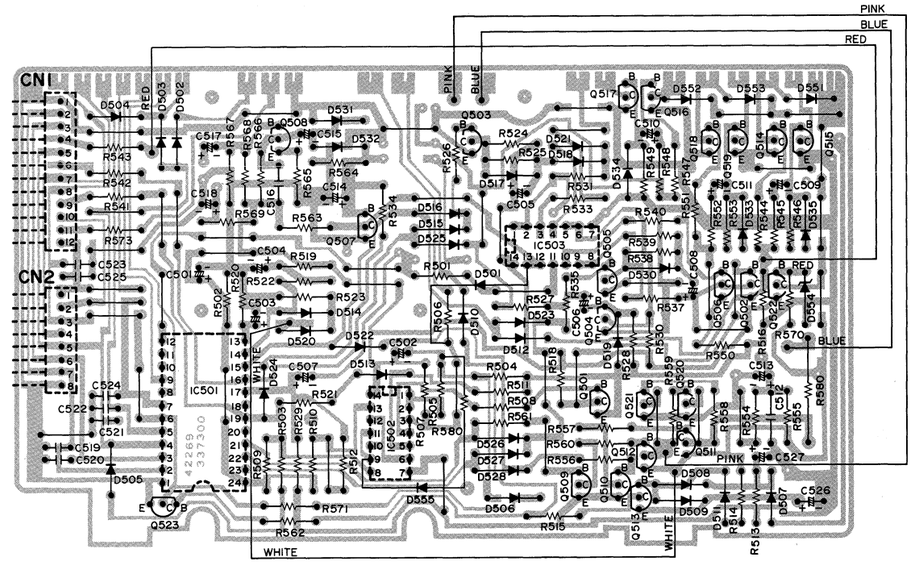



# CONTROL P.C.BOARD

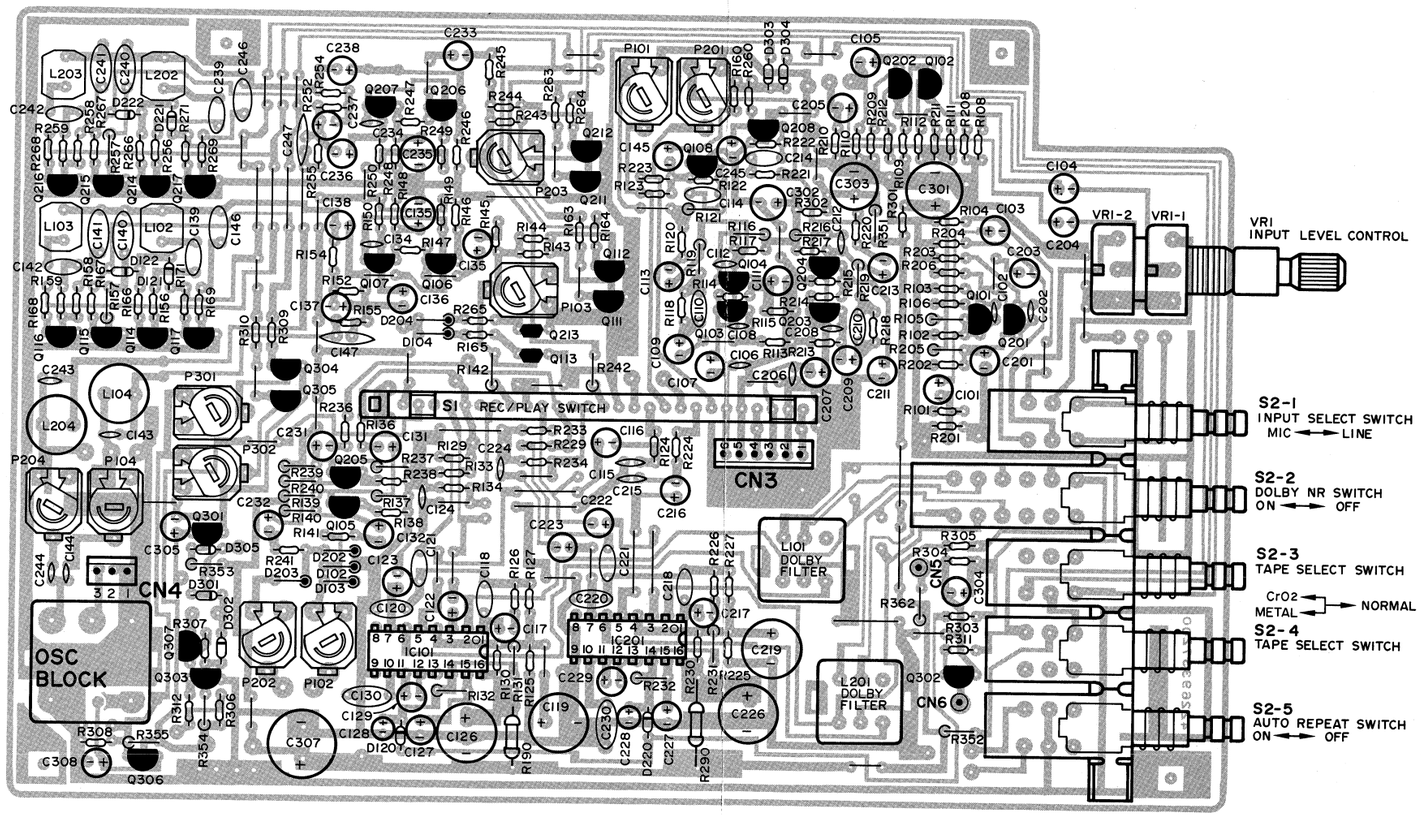
(Top View)



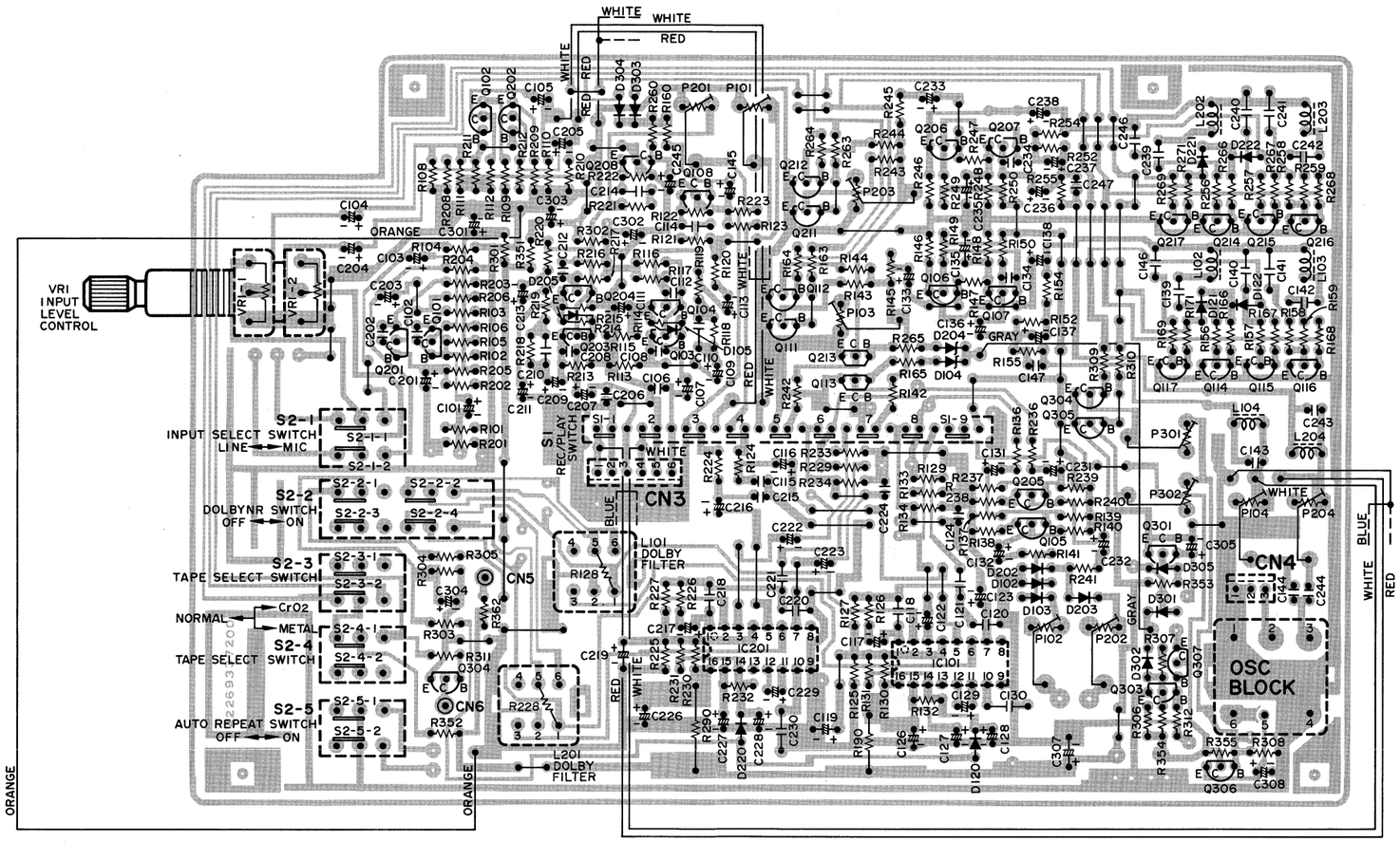

(Bottom View)



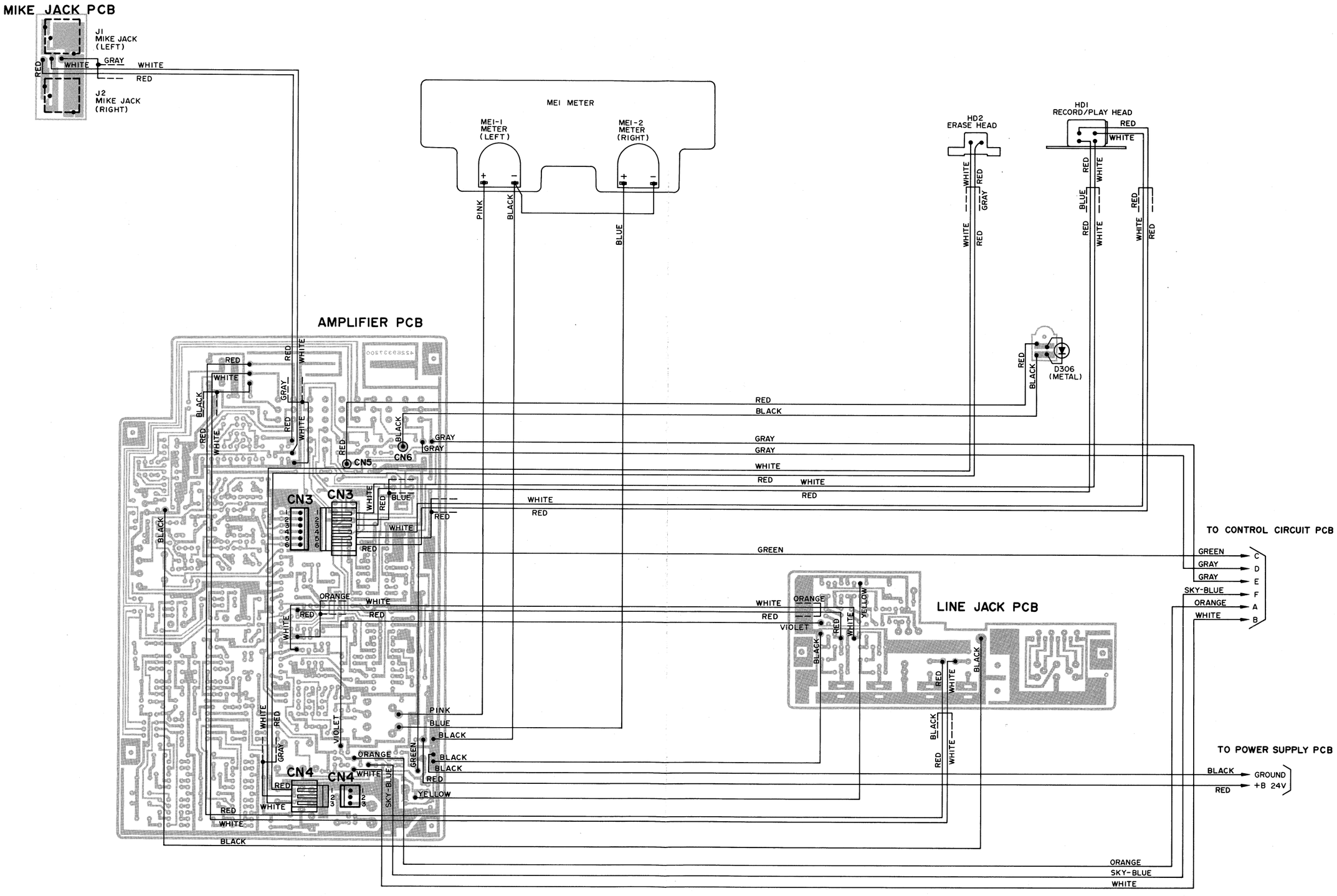
# AMPLIFIER BASE P.C.BOARD(Top View)



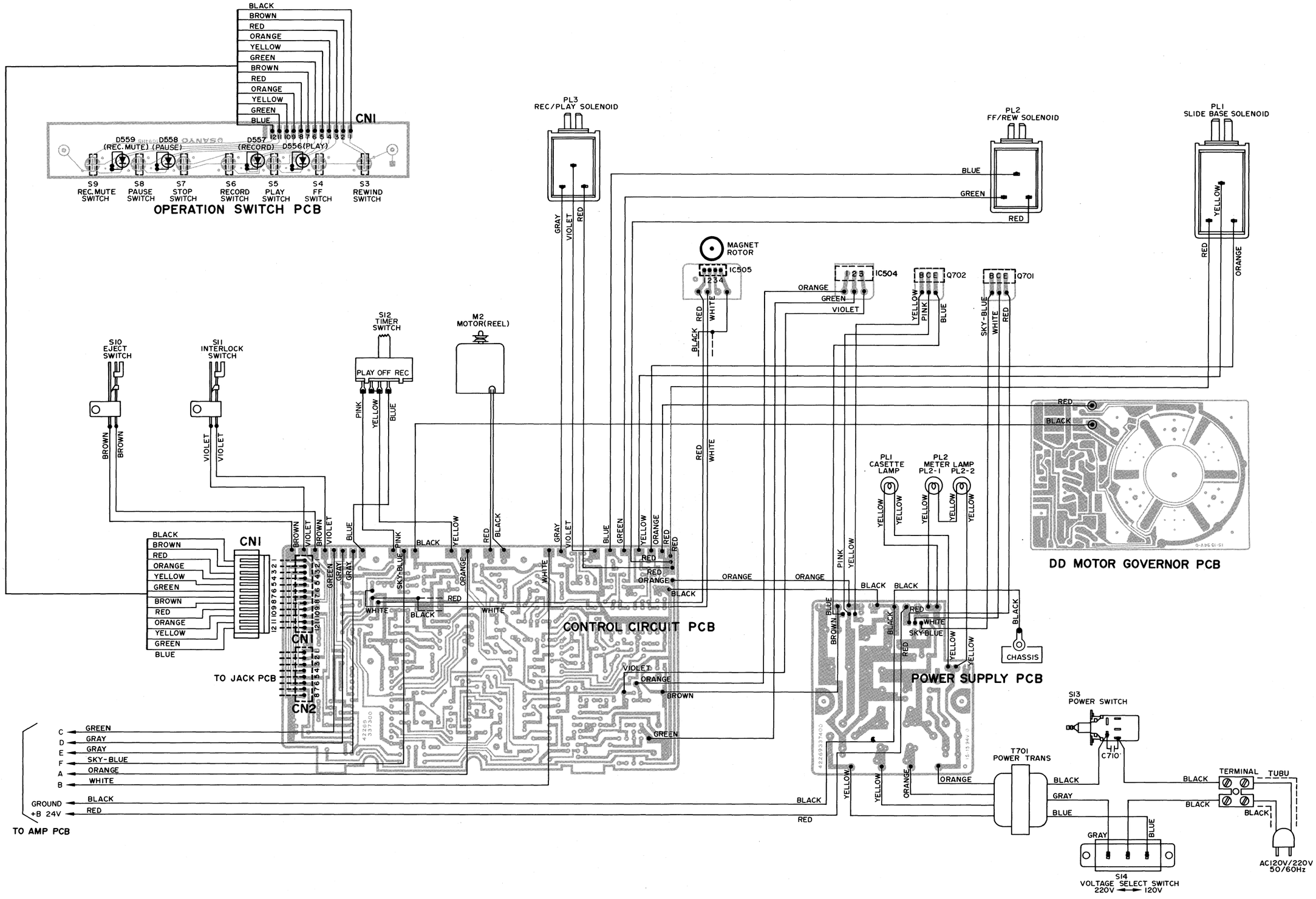
# AMPLIFIER BASE P.C.BOARD(Bottom View)



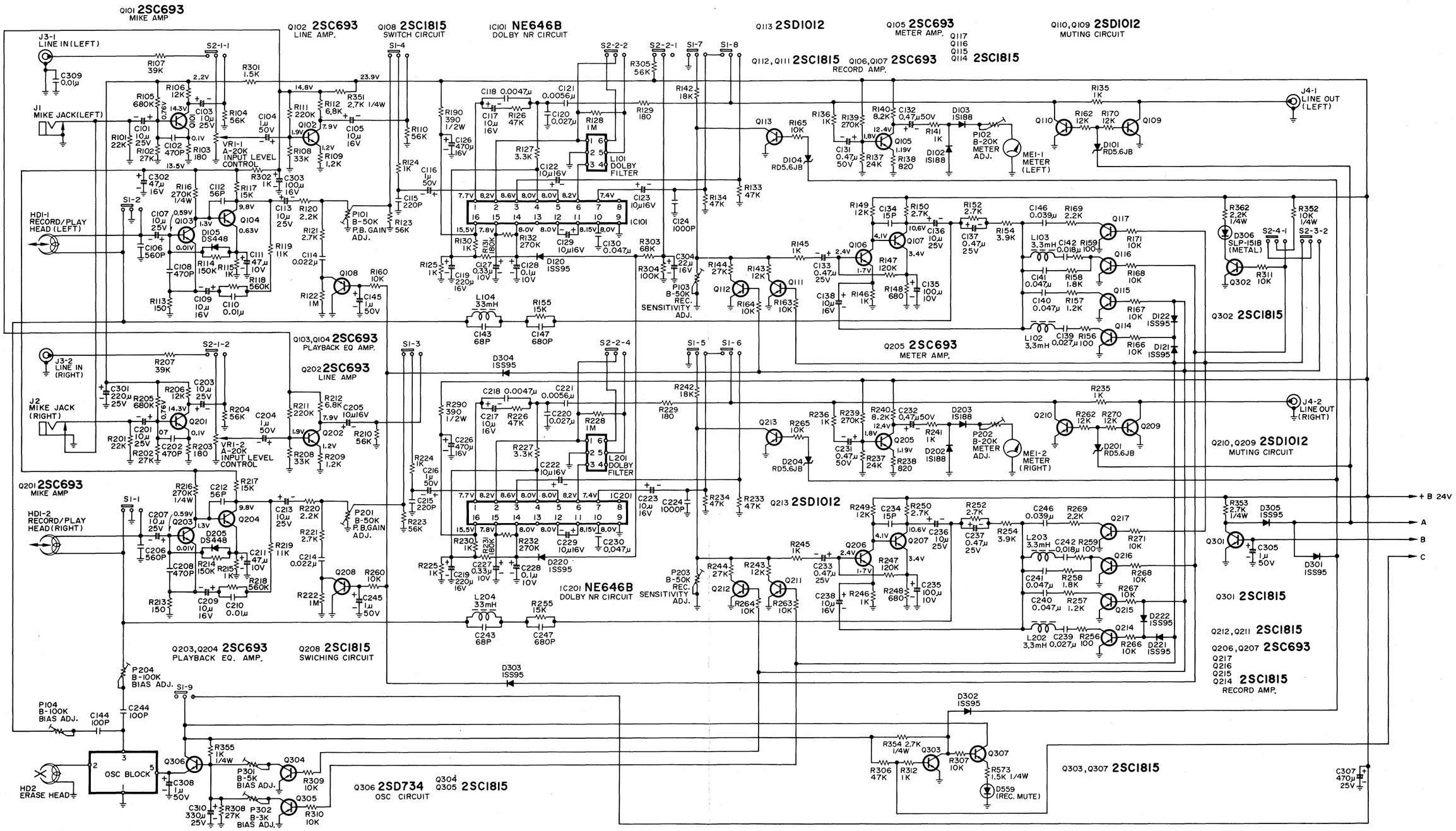
# WIRING DIAGRAM(Amplifier Section)



# WIRING DIAGRAM(Control Section)

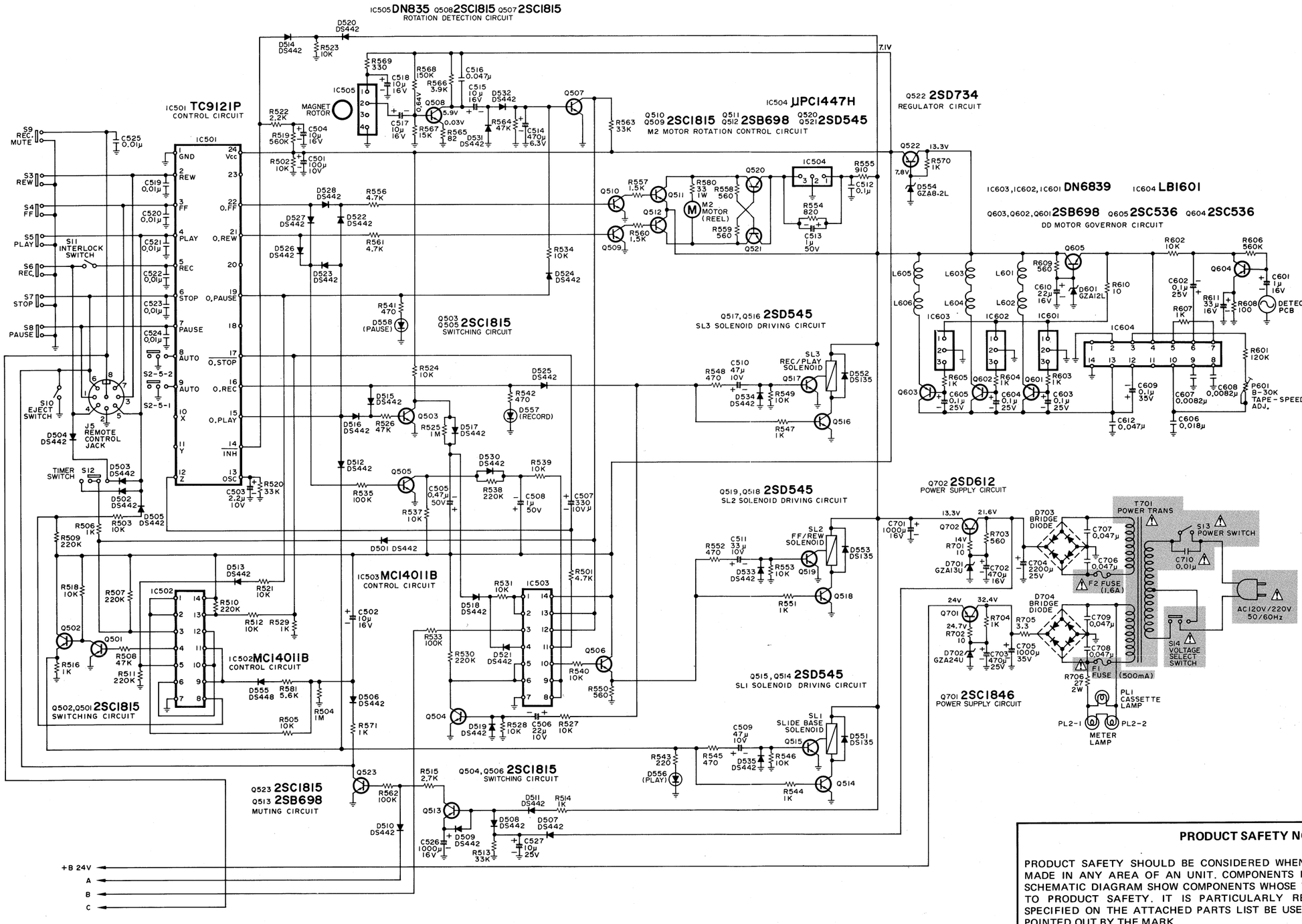


# SCHEMATIC DIAGRAM(Amplifier Section)




| No. | Name | Position | No. | Name | Position | No. | Name | Position |
|---|---|---|---|---|---|---|---|---|
| S1 | RECORD/PLAYBACK Switch | PLAY | S3 | REWIND Switch | OFF | S9 | RECORD MUTE Switch | OFF |
| S2-1 | INPUT SELECT Switch | LINE | S4 | F FWD Switch | OFF | S10 | EJECT Switch | OFF |
| S2-2 | DOLBY NR Switch | OFF | S5 | PLAY Switch | OFF | S11 | INTERLOCK Switch | OFF |
| S2-3 | TAPE SELECT Switch | NORMAL | S6 | RECORD Switch | OFF | S12 | TIMER Switch | OFF |
| S2-4 | TAPE SELECT Switch | NORMAL | S7 | STOP Switch | OFF | S13 | POWER Switch | OFF |
| S2-5 | AUTO REPEAT Switch | OFF | S8 | PAUSE Switch | OFF | S14 | VOLTAGE SELECT Switch | 120V |

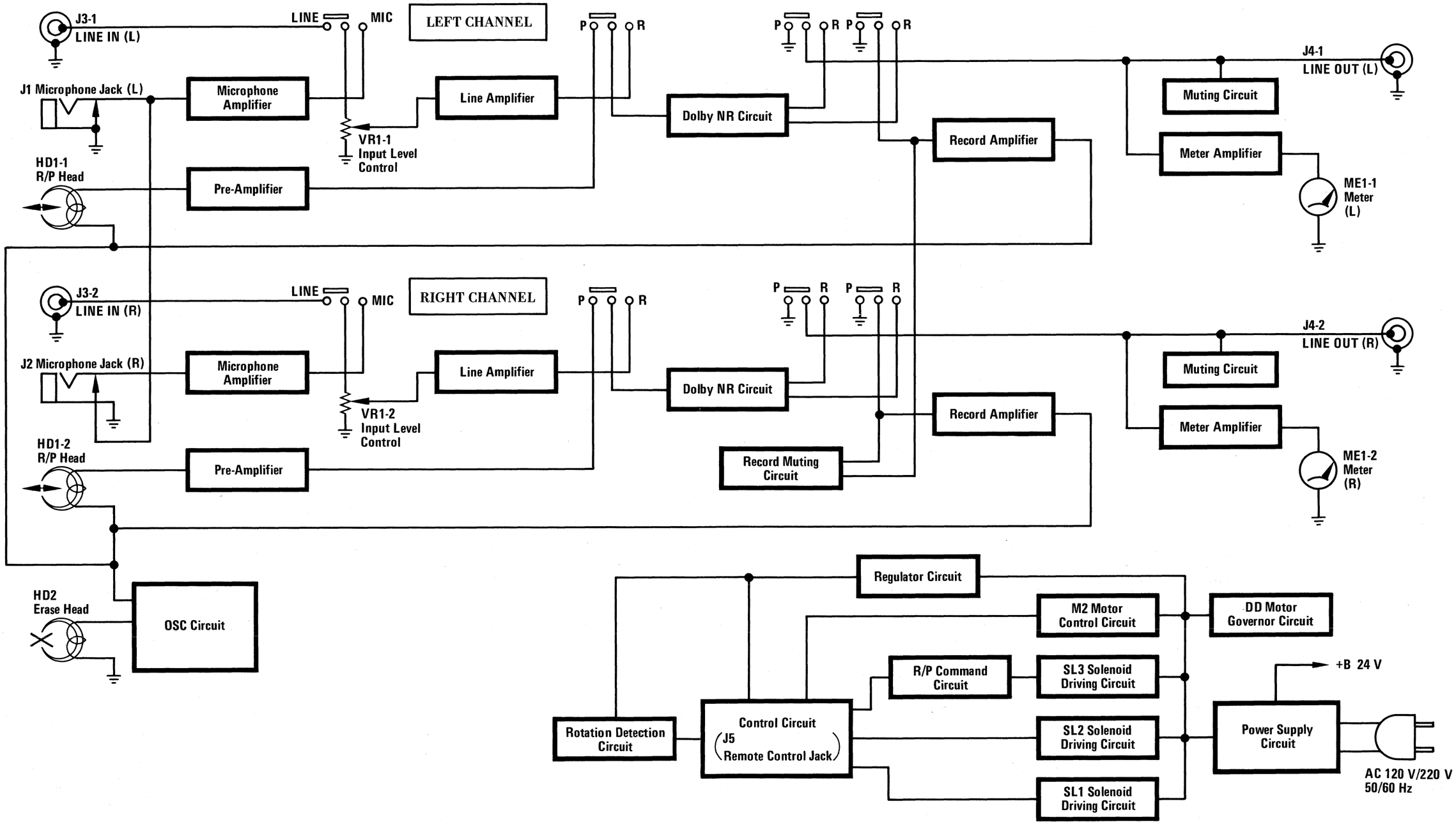
# SCHEMATIC DIAGRAM(Control Section)



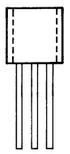
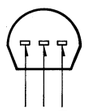
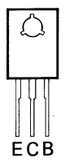

## PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE ATTACHED PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

# BLOCK DIAGRAM

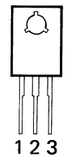
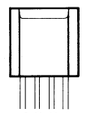
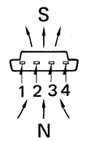
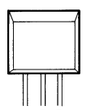
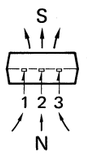


# IC & TRANSISTOR LEAD IDENTIFICATION

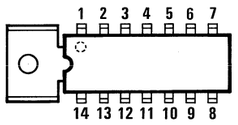
| FRONT VIEW | BOTTOM VIEW | TRANSISTOR |
|---|---|---|
| | | 2SD1012 |
|  |  | 2SB698<br>2SC536<br>2SC693<br>2SC1815<br>2SD545<br>2SD734 |
|  | | 2SC1846<br>2SD612 |

**TERMINAL NAME**

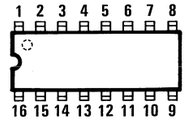
B⇒ BASE
C⇒ COLLECTOR
E⇒ EMITTER

| FRONT VIEW | BOTTOM VIEW | IC |
|---|---|---|
|  | | μPC1447H |
|  |  | DN835 |
|  |  | DN6839 |

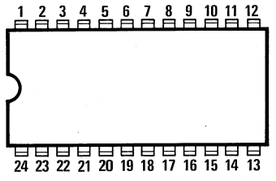
**LB1601 BOTTOM VIEW**



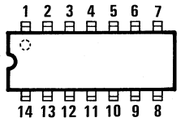

**NE646B BOTTOM VIEW**




**TC9121P BOTTOM VIEW**

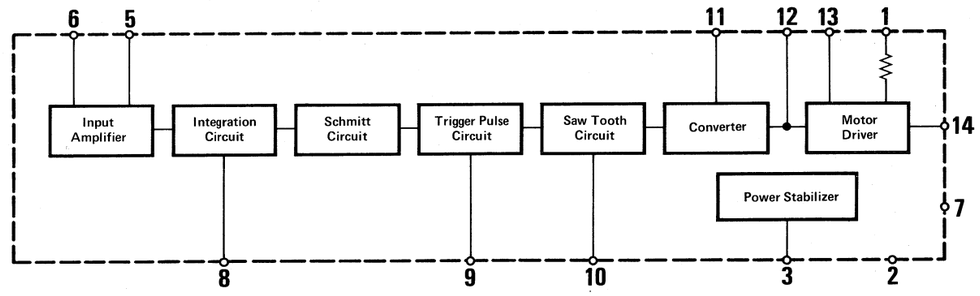



**MC14011B BOTTOM VIEW**

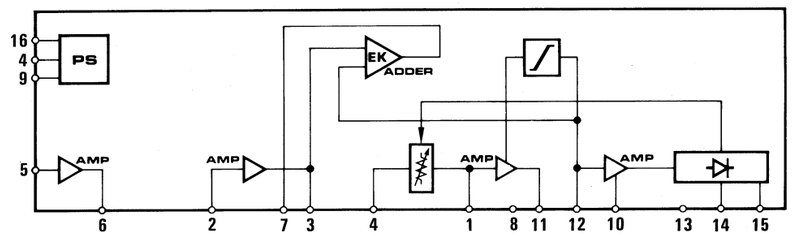




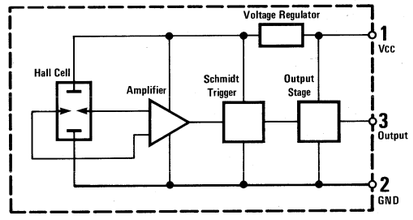

**LB1601 EQUIVALENT BLOCK DIAGRAM**



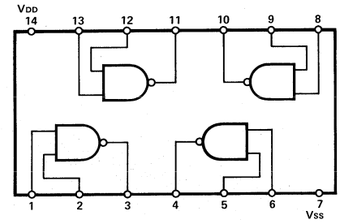

**NE646B EQUIVALENT BLOCK DIAGRAM**



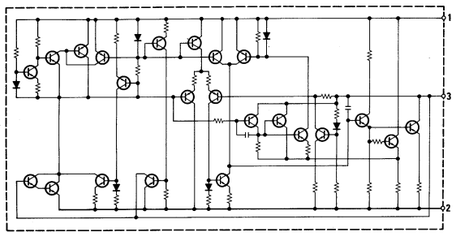

**DN6839 EQUIVALENT BLOCK DIAGRAM**




**MC14011B EQUIVALENT BLOCK DIAGRAM**




**μPC1447H EQUIVALENT CIRCUIT**




**DN835 EQUIVALENT CIRCUIT**